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DEPARTMENT OF COMMERCE

BUREAU OF FOREIGN AND DOMESTIC COMMERCE

ROY S. MACELWEE, Director.

SPECIAL CONSULAR REPORTS—No. 82

ERITREA

A RED SEA ITALIAN COLONY OF INCREASING
INTEREST TO AMERICAN COMMERCE

By

ADDISON E. SOUTHARD

American Consul at Aden, Arabia



PRICE, 10 CENTS

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LETTER OF SUBMITTAL.

DEPARTMENT OF COMMERCE,
BUREAU OF FOREIGN AND DOMESTIC COMMERCE,
Washington, August 31, 1920.

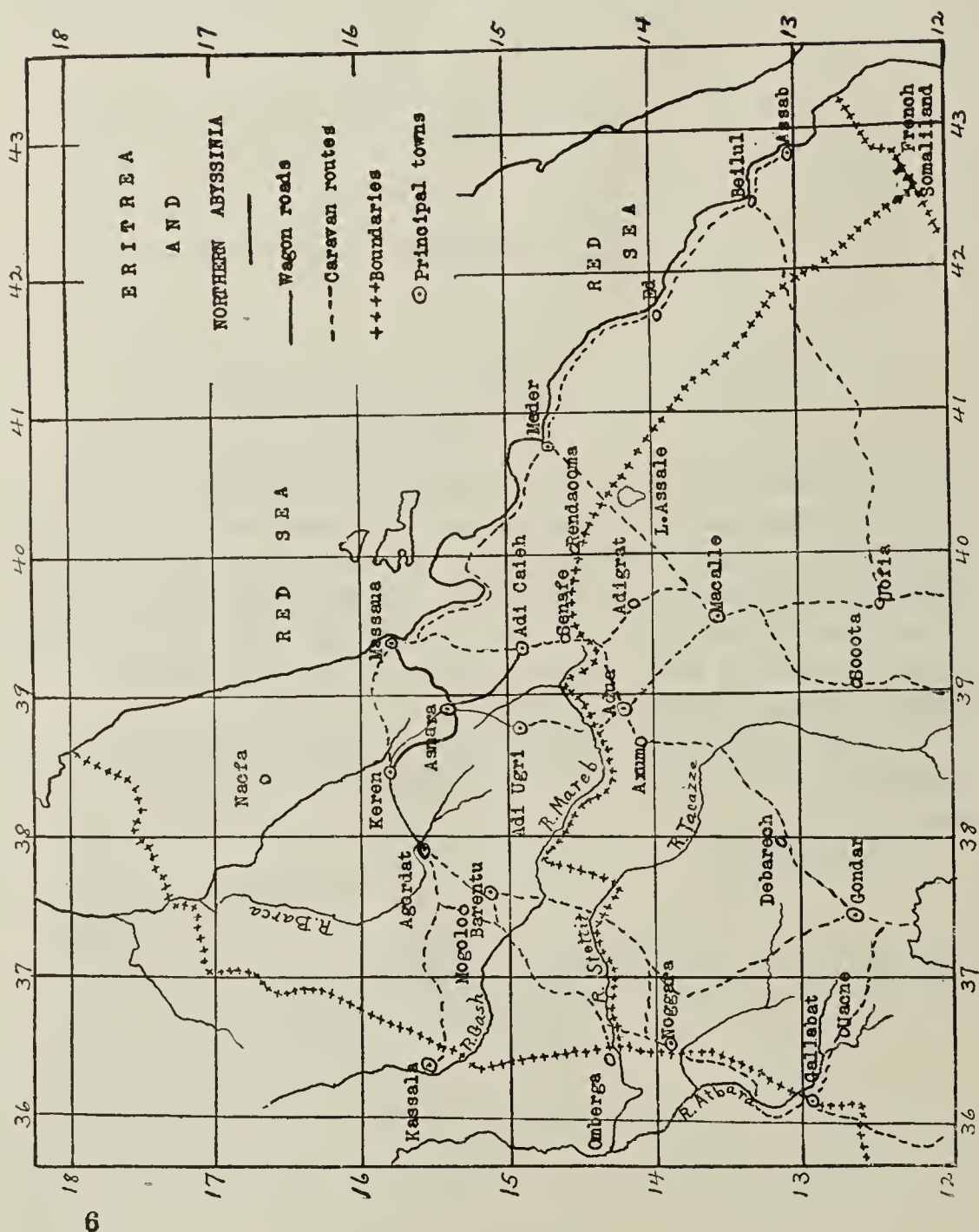
SIR: Submitted herewith is a report by Addison E. Southard, American consul at Aden, Arabia, on the commercial status of the Italian Red Sea colony of Eritrea, prepared with special reference to the development of American trade. The report is based on observations made by Mr. Southard during his three and one-half years' service as consul at Aden, supplemented by a personal visit to all important trading centers of Eritrea.

The Bureau published in 1918, as Special Consular Series No. 81, a similar report by Consul Southard on the commercial status of Abyssinia.

Respectfully,

R. S. MACELWEE,
Director.

TO HON. J. W. ALEXANDER,
Secretary of Commerce.



ERITREA:

A Red Sea Italian Colony of Increasing Interest to American Commerce.

INTRODUCTION.

The Italian colony of Eritrea has recently become an important factor in Red Sea trade, and its promising future in the commerce of this district gives a definite and timely interest to a discussion of its possibilities both as an import and as an export market. Indications are that the Eritrean port of Massaua will be the principal port for the rich trade of northern Abyssinia and the entrepôt for an important trade with the Arabian Red district. A great deal about Eritrea has been written and published in the Italian language, but it does not appear that there has been any reasonably comprehensive discussion in English of the commercial possibilities of the colony. This report is based upon personal investigations conducted by the Aden consulate, supplemented by statistical and other data made available by the progressive Government of Eritrea.

Eritrea's position in Red Sea trade has been overshadowed by the earlier commercial recognition of the territories of Sudan, Abyssinia, and French Somaliland, which surround it on the land sides, and of the leading Red Sea port of Aden. It has therefore remained in an obscurity which kept it from the direct notice of world commercial influences that would have done much to develop its economic possibilities.

Fortunately, the enterprising and energetic Italian officials of the colony have had faith in its ultimate importance as a factor in Red Sea commerce, and have succeeded in bringing about a sixfold increase in the total annual value of the colony's trade during the comparatively short period of 10 years ending with 1918. This remarkable result has lifted Eritrea from commercial obscurity, and demands for the colony the attention and interest of world traders, and particularly of those who are interested in Red Sea trade.

Taken alone, Eritrea has comparatively few possibilities of great importance to world trade, but as a base for northern Abyssinian and Red Sea Arabian coast trade it has decidedly important possibilities.

FACTORS IN DEVELOPMENT OF ERITREAN COMMERCIAL IMPORTANCE.

A leading factor in the development of Eritrea has naturally been the port of Massaua, which has been improved to an extent that makes it considerably the best port on the approximately 3,000 miles of African coast line between Port Sudan and Mombasa. The ex-

tension of the fertile Abyssinian plateau into Eritrea is within less than 40 miles of the sea in the latitude of Massaua, and a railroad extends across the narrow desert coastal plain from Massaua and up to the plateau.

From the plateau railhead at Asmara a number of well-made roads reach out to interior trading centers, and those extending south meet the Abyssinian caravan routes at the frontier. The extension of these roads into Abyssinian territory is the next logical step in the development of the Abyssinian trade, which is so important to Eritrea, and plans are already being considered for this work of extension. For the Arabian coast trade, which has only to cross the comparatively narrow Red Sea, warehouses for goods in transit have been built at Massaua and Government officials pursue a policy distinctly meant to encourage visits to that port by Arab trading dhows.

A POSSIBLE CHALLENGE TO THE SUPREMACY OF ADEN.

Cheap water, nominal port and pilot dues, and superior cargo-handling facilities are attracting foreign shipping to Massaua to carry away the products collected from northern Abyssinia and the Arabian coast, and to bring manufactured goods to be distributed to these districts through Massaua. The principal and only important difficulty for shipping at Massaua is the absence of adequate coal stocks such as are available at Aden and Port Sudan. Facilities for shipping at Massaua have improved sufficiently, however, to permit the carrying on directly of much import and export trade that would ordinarily be done through Aden. Massaua is and will continue at a disadvantage in not being a free port, but that handicap in the development of the trade of the port has been met to some extent by the recent construction of commodious warehouses for merchandise in transit, in connection with which there is only a nominal charge per package for long storage.

A few years ago Aden alone needed to be considered by commercial firms interested in Red Sea trade, but Massaua has now developed to the stage that it must also be considered by any firm desiring to enter properly into either the import or export trade of the district. This is due not only to the distinct port improvements and decided encouragement of trade at Massaua, but also to the delayed improvement of shipping facilities at the port of Aden, which, owing to its strategic location, has long been the natural trading center for all Red Sea territories.

ITALIAN TRADE INFLUENCE PREDOMINATES.

Owing to preferential customs duties and for other obvious reasons, Italy predominates in the trade of Eritrea. In 1917, which may be taken as an average year for the purpose, nearly 60 per cent of the entire trade of the colony was with the mother country. There is also a feeling on the part of Italian firms established in the colony that, since Eritrean commercial importance has developed almost entirely through the efforts of themselves and their own Government, the benefit of its continued development should be decidedly for the advantage of Italian commerce. On the other hand, they realize

that there are many lines of manufactured goods which can at times be more advantageously obtained in other national markets, such, for instance, as kerosene and unbleached cotton sheetings, in which a distinct advantage in Red Sea trade has long been enjoyed by American products. Also the American market is one in which superior prices are often obtained for Eritrean hides, skins, and mother-of-pearl shells, considerable quantities of which reach the United States by direct or indirect routes.

The majority of the firms established in the colony are Italian, but there are some British Indian and Arab merchants who do a considerable business. A French firm with large and important trade connections in the Red Sea has recently opened agencies under its own direction in Eritrea as a recognition of the recently developed importance of the trade of that colony.

AMERICAN GOODS FAVORABLY KNOWN IN ERITREA.

Several of the leading firms in Eritrea are interested in American trade connections, and there is promise that an increasing business will be done with the United States, from which country at present there are coming considerable imports of cotton piece goods, iron and steel, galvanized iron sheeting or roofing, and kerosene. American soap, builders' hardware, canned fruits, macaroni, etc., are part of the stock in trade of many of the larger retail shops in Eritrea. Italian sentiment in Eritrea favors American, British, and French goods, in the order named, for such needs as can not be met by Italian manufacturers, and of the three American goods at present appear to be best established.

United States firms interested in the Eritrean market could distribute through established Italian firms, but it would seem more profitable for them to be directly represented in order to participate more advantageously in the export trade dealing with hides, skins, and mother-of-pearl shells, the three principal products which go from Massaua to United States markets.

So far as the native is concerned, he is very much under Italian influence—Government policy having been designed to bring that about—and naturally trusts to the judgment of Italian firms in the goods offered for his consumption, whether they be of Italian, American, or other national manufacture. The one exception to this general circumstance is American unbleached cotton piece goods, which in Eritrea, as elsewhere in the Red Sea commercial district, are distinctly favored by the native consumer when he can buy them at not too great an advance over prices of goods from other sources.

EXTENT OF ERITREAN MARKET.

First, the northern Abyssinian Provinces and, second, the Arabian Red Sea coast ports are coming to rely more and more upon Eritrean import and export markets. Eritrea itself has but 90,000 square miles of area and less than a third of a million people, but considering the adjoining Abyssinian territory and neighboring Arabian coastal districts served, it may be said that Eritrean markets are an important factor in serving the commercial needs of possibly 5,000,000 people. Many of these people are members of native tribes living in

comparatively primitive style, but at present they are enjoying more than normal prosperity, owing to the excellent prices received for the raw products that they have to sell. Considering the probable needs of the world for all classes of raw materials, and particularly for hides and skins, which are the principal products of the Red Sea district, it may reasonably be assumed that prices will continue good and thus insure to the native tribes served by Eritrean markets a relatively large purchasing power.

Conditions which govern Eritrean commerce do not differ materially from those throughout the Red Sea district, with which some American importers and exporters are already reasonably familiar. These markets can support a considerably increased trade and there is every reason to believe that American business can and should participate.

LOCATION AND AREA OF ERITREA.

The founding of the Italian colony of Eritrea was suggested by the opening of the Suez Canal and its bearing upon the development of Red Sea commerce. A pioneer Italian trading company, with the encouragement of the Italian Government, established itself in 1869 at Assab, on the African coast almost opposite Mocha. This company ceded its rights to the Government in 1882, and from the Assab territory there rapidly developed by treaty and conquest a colony including what had been Egyptian and Abyssinian territory. It lies approximately between the thirteenth and eighteenth degrees of north latitude and the thirty-sixth and forty-third degrees of east longitude. The Red Sea coast line of the colony, from Ras Casar to Ras Dumeira, has a length of about 670 miles. Sudan territory bounds the colony on the north and west, Abyssinia and French Somaliland bound it on the south, and the Red Sea forms its eastern boundary. Eritrea is a triangular-shaped territory. Its greatest depth from the coast inland, at the fifteenth degree of north latitude, is nearly 300 miles. The area of the colony is about 90,000 square miles, or nearly the area of Italy without Sicily and Sardinia.

TOPOGRAPHY, CLIMATE, AND RAINFALL.

The vast and mountainous plateau of Abyssinia narrows and extends north into Eritrea, descending on one side to the hot and desert Red Sea coastal plain and on the other to the Sudan. This plateau extends almost the entire length of Eritrea and is the most habitable part of the colony. The mean altitude of the plateau is about 7,500 feet, but some of the mountain peaks rise to more than 9,000 feet above sea level.

There are many deep valleys or canyons cutting the plateau which offer difficulties to the construction of transportation highways, but which, on the other hand, provide some very favorable locations for agricultural enterprise.

Eritrea has no navigable rivers, but a number of small streams rise in the plateau, some of which discharge to the Red Sea and some run in the opposite direction to the Sudan. The largest river of the colony is the Settit, which rises in Abyssinia, flows north and then west, and for some distance forms the Eritreo-Abyssinian boundary. It then

passes into the Sudan to join the Atbara or Black Nile. The Gash River is a sizable stream that rises in southern Eritrea and continues its course into the Sudan, where it disappears in the desert beyond Kassala, an important trading center. The Barca River also rises in southern Eritrea and runs northward the entire length of the colony, passing into the Sudan and disappearing in the desert country near Suakim. These three streams have water throughout the year in greater or less quantity and support a good deal of vegetation. The whole central and southern part of the Eritrean plateau is, however, well watered by many small mountain streams.

On some parts of the plateau as much as 20 inches of rain falls during the rainy season from May to October. As the plateau descends on either side the rainfall decreases and on the Red Sea desert littoral it is nowhere greater than 7 inches per annum, and is usually much less. There is a so-called season of small rains in April and May. The big rains are in July and August.

The climate of the Eritrean plateau is very agreeable throughout the year, except possibly during the season of heavy rains. In the higher plateau the temperature ranges from 50° to 76° F. and in the desert or semidesert lowlands the range is from 59° to 95° F. in general, although in particular places, such as Massaua and Assab, the two Red Sea ports, the hot season on occasions has a temperature as high as 113° F. in the shade. There are extremes of humidity and dryness both in the lowlands and on the plateau. On the plateau strong winds prevail, and they are decidedly cool during the winter season. Light woolen clothing may be and is comfortably worn by many European residents during the greater part of the year on the plateau. Health conditions are reasonably good in all parts of the colony.

CHARACTER OF POPULATION.

The native population of Eritrea is largely nomadic or seminomadic, only the Abyssinian tribes of the central and southern Provinces of the colony living to any extent in settled villages. The population is estimated at 330,000, of whom about 3,000 are Europeans or Levantines. About one-half of the population is made up of nomadic Moslems of Semitic extraction. The principal Moslem tribes are the Dankalis (Somali type) and the Beni Amr (Arabic type).

Probably a third of the total population professes Coptic Christianity, the State religion of Abyssinia, to which country most of these people belonged before the territory that they inhabit became a part of Eritrea as the result of conquest. There are about 10,000 Catholic Christians, missionary converts, and considerably smaller numbers of Protestants, Greek and Russian Catholics, and Israelites, in the order named.

Native Eritreans are all dark skinned and many are black.

The population as a whole is decidedly mixed, and it is therefore not easy to convey accurately in a few words an idea of the general social state. The more important element in the population, which is made up of the Abyssinians of the central and southern parts of the plateau, has the feudal organization peculiar to Abyssinia.¹ The

¹ See "Abyssinia," by Addison E. Southard, Special Consular Reports No. 81, issued by the Bureau of Foreign and Domestic Commerce. Sold by the Superintendent of Documents, Government Printing Office, for 5 cents.

remainder of the population is made up largely of pastoral tribes who wander over certain districts with their herds and flocks and have only a tribal organization.

All creeds and religions are given the sympathetic attention of the Government officials, and the policy pursued has led to the building, at Government expense, of churches and mosques best suited to the ideas of the various tribal or religious units.

The policy of the colonial Government has been very successful, and Italian political and economic influence is well established. Traders can proceed to any part of the colony in safety and carry on their business without molestation. There is no political division in the Red Sea district where organized government has been so definitely established and is more appreciated by the native population. The Eritrean Government has been criticized as unduly paternal, but its success may be ascribed largely to that very circumstance of paternalism.

GOVERNMENTAL ORGANIZATION.

The colony is under the Italian Colonial Office, and the home Government is represented by a governor, whose official residence is at Asmara, the capital. There are various executive officials in charge of departments of public safety, finance, civil affairs, customs, posts and telegraphs, etc. There are eight provinces, each governed by a commissioner who exercises wide discretion in his treatment of the natives under his jurisdiction. Usually the native tribal or village organization is deferred to in minor matters and in all other possible ways.

Native gendarmes, officered by Italians, maintain peace and order, and at various posts throughout the colony are stationed units of the Royal Italian Army, the enlisted personnel of which is largely native, representing infantry, engineers, and mountain artillery.

EDUCATION AND LANGUAGE.

Education is encouraged, and there are three Government industrial schools in the colony where native youths are taught printing, telegraphy, carpentry, blacksmithing, and various other useful trades. These schools are well attended and have been important factors in extending Italian influence and developing respect for civilized institutions among the natives. There are several mission schools, and it may be said that an elementary education is available to any young Eritrean who desires it.

There are 15 languages or dialects used to a recognizable extent in the colony, the most important of which are, in the order named, Tigrean (A'yssinian), Italian, and Arabic. The mixed native population of Eritrea seems to have a special aptitude in learning foreign languages, and Italian is making splendid progress. Probably a fifth of the entire population of the country has a working knowledge of that language, and its use is increasing. Arabic and Italian are both taught in the Government schools. English is neither taught nor spoken to any extent in Eritrea by either the native or foreign population.

SCOPE OF THIS PUBLICATION.

The varying exchange value of the Italian lira, the currency unit in use in Eritrea, made it seem inadvisable to quote local jobbing and retail prices in the following pages of this report. Such quotations as could be made would perhaps rule only for a few weeks and then change from time to time until the lira returns definitely to its normal exchange value. Other detailed information not essential to a general understanding of the subject has also been omitted in order to keep the report within a length suitable to the purpose for which it is written.

American business men who have or who may develop a special interest in Eritrean commerce will find useful information relative to some of the subjects discussed in the following pages, and the American consulate at Aden will be pleased to supply fuller information in reply to specific inquiries.

TRADING CENTERS.

At practically all of the original native trading centers in Eritrea the colonial Government has erected permanent buildings with European facilities, and has effected other improvements which are an agreeable surprise to the traveler accustomed to the average towns and settlements in Red Sea territories. In many instances the old caravan trails between these various trading centers have been made into roads to facilitate trade and travel.

Massaua, located a little more than two-thirds of the way down the Red Sea from Suez to Aden, is the principal port; Assab is a much less important port located on the African Red Sea side of the Straits of Bab-el-Mandeb. The more important interior trading centers are Asmara, the capital; Keren, in the northern Province of that name; Agordat, in Barca Province, which is an important station in the trade from Asmara to the Sudan frontier and in the trade to the southwest Province of Gash and Settit; and Adi Caieh, Adi Urgi, and Barentu, each on an important trade route into Abyssinia. All of these places are considered of importance to any commercial firm interested in Eritreo-Abyssinian trade.

MASSAUUA.

Massaua is the principal port of Eritrea. It is nearly 900 miles from Suez and 380 miles from Aden. With the exception of Port Sudan, there is no port on the Red Sea and Gulf of Aden having more up-to-date facilities for shipping. On the north front of the town there has been built a stone quay alongside which ocean-going vessels may come for loading or discharging cargo. The railway extending to the interior has tracks along the quay. There are also on the quay three steam traveling cranes for handling cargo, each capable of lifting about 3 tons. There are coaling and watering piers, and on the opposite side of the harbor is an electrically operated conveyor for loading salt into steamers while lying some distance out from the jetty. Provisions, meat, and other supplies for ships are usually available in reasonable quantities and are comparatively cheap.

The old Arab town of Massaua is built on a coral island and is connected with a second island closer inshore by a dike suitable for wheeled traffic and over which the railroad runs, and this in turn is connected with the mainland by a causeway about three-fourths of a mile long. A sufficient supply of coal for shipping is usually not available, although when conditions are more favorable it will doubtless be possible for a reasonable number of ships to coal at Massaua. Coal is handled by lighters and coolie labor with good speed. There are ample customs warehouses for cargo storage. There is an electric-light and ice plant suitable for the needs of the port and a post office and a telegraph station from which messages to all ports of the world can be sent. The only commercially important industry is a plant for the manufacture of salt by evaporating sea water, but plans are about completed for the construction of a fish-packing plant.

The climate is oppressively hot during the late spring, summer, and early fall months. Rainfall is infrequent and light.

The population is about 16,000, consisting of Arabs, Dankalis, Sudanese, British Indians, Abyssinians, and other Red Sea peoples. The European population is small, as most of the European business men live at Asmara, six hours distant by rail, where the climate is temperate. Massaua has two banks, two hotels, and several shipping offices. It is the residence of the commissioner for Massaua Province. There are no newspapers.

ASSAB.

The port of Assab is located on Assab Bay near the southern frontier of Eritrea. It is the capital of the Province of the same name and the residence of a commissioner. The present commercial importance of Assab is comparatively small, but as a base for trade with the Arabian coast, from which it is distant only about 40 miles, and as a base from which to open either a rail or a wagon road into the rich Wollo Galla Province of Abyssinia, it has considerable potential value for the development of commerce. It has some caravan trade with the Dunkali desert hinterland. The port of Assab has an important naval wireless station and a prison to which native convicts from Eritrea and other Italian African colonies are sent. A fish-packing plant and an installation for the manufacture of salt from sea water are under construction.

The Assab climate is very hot, and the heat combined with the barrenness of the surrounding country makes it an undesirable place of residence for Europeans. There is no hotel for Europeans. The two main streets are broad and well kept. An important Catholic mission is established at Assab. The population scarcely exceeds 2,000 and practically the only Europeans are the Government officials and a few traders whose duties require them to reside there. Assab is about 12 hours by steamers from either Aden or Jibuti and 24 hours from Massaua. Assab was the original Italian settlement in the colonial territory now known as Eritrea.

ASMARA.

Asmara is the capital of the colony of Eritrea. It is built on the mountainous plateau back from the coast and has an elevation of 7,200 feet above sea level. The climate as a rule is pleasantly cool

throughout the year, and many of the Massaua people who desire a change from the oppressive heat of the coast reside at Asmara during a great part of the year. Rainfall is fairly heavy during the summer months. Light woolen clothing can be worn almost throughout the year. On a straight line Asmara is only about 35 miles inland from Massaua, but the railroad that climbs the mountains and connects the two places is 80 miles long.

Asmara has the appearance and many of the facilities of a European town, with well-constructed buildings, banks, shops, hotels, cafés, etc. The streets are broad and well kept and carriages ply for public hire. There is an electric-light plant and a good water supply. There is no newspaper. Modern telephone, telegraph, and postal services are available. Asmara is the residence of the governor of Eritrea. There is only one consulate in Asmara, that of Abyssinia. Neither the United States nor any of the European Governments are represented by consuls. There is a comfortable caravansary for the use of caravans coming in from outlying trade centers and a large market that is active every day of the week. The population of Asmara is about 11,000, of which not less than 10 per cent is European or Levantine. There are no American citizens in Eritrea.

KEREN.

Keren is located in the Eritrean highlands about 65 miles north of Asmara. It is lower than Asmara, being only 4,500 feet above sea level, and has a somewhat more equable climate. A good motor road connects the two places, and a railroad now under construction is expected to be open for operation by the end of 1920.

Keren is a center of the dom-nut industry and exports considerable quantities of both the nuts and the finished dom-nut buttons. It is the capital and residence of the commissioner for Keren Province. There are a number of substantial buildings, including the Government house, industrial school, and hotel. A military post adds something to the importance of the town. Post, telephone, and telegraph services are available. Keren's trade is principally with northern and western Eritrea. When the railroad is extended from Keren to Agordat, the latter place will probably take away a great deal of Keren's commercial importance. The population is about 7,500, including a number of Europeans.

AGORDAT.

Agordat, situated about 50 miles west of Keren, is the capital of Barca, the largest of the eight Provinces into which Eritrea is divided. The Kassala-Sabderat caravan route from the Sudan, the Gondar-Barentu caravan route from northwestern Abyssinia, and the Barca River caravan route which runs north and south for the entire length of Barca Province, all meet at Agordat and merge into the main trade highway to Asmara via Keren. Agordat is 40 miles from Barentu and 120 miles from Sabderat on the Sudan-Eritrean frontier. It is 2,500 feet above sea level. Being the meeting place of the three important caravan routes indicated, it is an important trading center, and is on probable future rail lines, one of which will run west to Kassala and the other south to the Abyssinian frontier.

It has telephone, telegraph, and postal communication with other parts of Eritrea. The population is about 2,500, mostly Moslems, among whom there are a considerable number of Sudanese negroes.

Agordat lies near the headwaters of the Barca River, along the course of which grow great numbers of dom palms, and it is one of the main stations for the important dom-nut industry, which centers at Keren. Motor cars can with little difficulty travel from Keren as far as Agordat, and most of the important Eritrean trading companies are represented there. Agordat is on the western slope of the main Eritrean plateau and is at such a low level that there is oppressive heat during a part of the year.

ADI CAIEH.

Adi Caieh is the capital of the Province of Acchele Guzai and is the residence of the commissioner and a military post of importance. A good motor road covers the 80 miles from Asmara to Adi Caieh, and the farther distance to the Abyssinian frontier, also by motor road, is only 16 miles. Adi Caieh ranks next to Asmara as an inland trading center and a very large share of the colony's trade with Abyssinia is through this town. Caravans from as far south as Dessie and Macalle in Abyssinia arrive frequently in Adi Caieh, and there is a daily market for the benefit of arriving caravans.

The elevation of Adi Caieh is 7,500 feet, being greater than that of Asmara, and it is only 21 miles from the seacoast at Zula, a small port on the gulf of the same name. There is a project for connecting this important trading center, from which there is an abrupt drop to the coastal plain, with Zula by a cableway and thus facilitate the transport of merchandise, which at present follows the roundabout way to the sea via Asmara and Massaua. Zula is near the site of Adulis, used as a port in the time of King Solomon for the ancient trade activity between old Abyssinia and the Asiatic coast. Adi Caieh has postal, telephone, and telegraph connection. Several substantial buildings have been constructed by the Government and by merchants.

The climate during the winter is uncomfortably cool for those who make temporary visits up from the lowlands. The permanent population is about 2,000, but this number is often considerably increased by the presence of traders. Adi Caieh is thought to have a greater immediate future than any other of the inland trading centers of Eritrea except Asmara.

ADI UGRI AND BARENTU.

These two places are the capitals of the Province of the Serai and the Gash and Settit Province, respectively. Adi Ugri is the Eritrean center for trade with Abyssinia via the important Adua route, and Barentu is the Eritrean market for the rich trade district extending up from Gondar in Abyssinia. Both towns have a very favorable future in the development of the plans of the Eritrean Government for closer trade relations with the respective districts of the rich Abyssinian Province of Tigre, with which they are already connected by caravan routes.

A good motor road connects Adi Ugri with Asmara, only 40 miles distant, but Barentu as yet has only caravan connection with other parts of Eritrea, the trade from this center going generally north to Agordat and thence via Keren to Asmara and Massaua. The Gash and Settit Province is one of the richest in Eritrea, but much of it is undeveloped because of its comparative remoteness. Barentu is in the line of a probable future railroad extension from Agordat to Gondar, in the Lake Tsana district of Abyssinia.

Adi Ugri has an elevation of 6,000 feet and is one of the places of heavy rainfall. Its population is about 3,000. There is telephone, telegraph, and postal communication with other parts of the colony and with Abyssinia. Barentu has an elevation of about 3,600 feet. Its population is a little more than 1,000, but there is telephone, telegraph, and postal communication with other Eritrean centers. The commercial future of both places is considered important.

LESS IMPORTANT TRADING CENTERS.

Other trading centers of less present importance are Zula, on the gulf of the same name; Ghinda, an important station on the Massaua-Asmara railroad, where is located a Government agricultural experiment station, and which has some caravan trade with the territory extending north and south on either side of the railway in the zone between the plateau and the coast; Adi Quala, which is near the frontier on the route between Adi Ugri and Adua; Senafe, a village of probable Arabic origin on the Adi Caieh-Macalle route; Elaghim, on the Settit River, in the southwestern corner of Eritrea; Sabderat, on the Sudan frontier, which is a caravan station and an important telegraph station for communication between Eritrea and Europe; and Mersa Fatimari, on the Red Sea coast back of the Island of Baca, which is the port of export for the famous potash deposits, about 60 miles inland. With the exception of Sabderat, which is under the influence of the Sudan trading center of Kassala, all of these places are at present important only to Italian or Italo-Abyssinian trade.

AGRICULTURE AND OTHER INDUSTRIES.

As in Abyssinia, the principal industries of Eritrea are agriculture and stock raising. Owing mainly to lack of water, or the lack of judicious utilization or conservation of the limited water supply that is available in large areas of the country, stock raising is the more important industry and provides the hides and skins which form the principal export item. The agriculture of the colony is not at present sufficiently developed to meet the entire local demand for such food-stuffs as grains. The mining of metals has had some attention, but is not yet a paying industry. Forest products are assuming more importance, mainly as regards the so-called dom-palm nut, which supports a button-making industry.

In the development of manufacturing industries there may be mentioned fish and meat packing, soap making, flour milling, salt making by the evaporation of sea water, potash mining, and button making. Detailed discussion of the more important industries follows.

SISAL-HEMP GROWING.

The larger areas of land in Eritrea that offer possibilities for agriculture receive a fairly favorable rainfall during two or three months of the year, and the remainder of the year is more or less dry. The difficulty or expense of irrigating such tracts of cultivable land for crops needing more water has resulted in the introduction of sisal (*Agave sisalana*) as an agricultural experiment. An official of the Eritrean Government estimates that at present the two principal plantations, with some smaller plats, have a total area of about 1,500 acres. The largest and more important is near Keren, on the Asmara-Keren road. Stripping of the fiber is now done on a small scale at this plantation.

No comprehensive or accurate figures are yet available as to the status of the industry of sisal growing, which may, however, be considered as beyond the experimental stage. It is reasonably certain that sisal growing will be a permanent industry. The plantation near Keren was seen by the writer and the plants appeared to be hardy and strong, although under the average size of the plants to be seen on Mexican plantations. Inquiries have already been made in the United States by firms interested in securing stripping machinery for use in the growing Eritrean sisal-hemp industry.

COTTON GROWING.

In the areas where soil and other conditions seem suitable, which areas are, however, more or less restricted, experiments have been made with both the American and Egyptian varieties of cotton. Seed of the King or Sugar Loaf variety introduced from Texas has yielded about 500 pounds of good staple per acre, but no better results have yet been obtained. In some places the staple has deteriorated slightly, but the low yield and the shorter staple is considered to be the result of inadequate preparation and cultivation of the land.

The hopes for any considerable production of cotton in Eritrea do not appear now to promise realization, although an increase in acreage is being encouraged.

GRAINS.

The cereal crops of Eritrea are by far the most important as an immediate and much-needed source of food supply. On the plateau wheat, barley, millet, and some less well-known indigenous grains are the principal crops, and in the deeper valleys durra is the important cereal crop. The principal food of the population is supplied by grains, but local production is insufficient for this need and considerable quantities are imported from Abyssinia and India. There is some importation from the Province of Asir, on the Arabian Red Sea coast. The most important feature in development of the somewhat meager agricultural possibilities of Eritrea will, for some years to come, be encouragement of the natives to grow more grains to meet their own wants and to extend stock raising.

OTHER AGRICULTURAL PRODUCTS.

The colonial Government is offering all possible encouragement to the planting of coffee, which, since conditions in central and southern Eritrea are similar to those in the coffee-producing regions in adjacent Abyssinia, should in time come to be an important crop. Some experiments in growing Mocha coffee have been made, but the Mocha quality has not been obtained, although conditions of soil and climate appear in some places to be identical with those in the Arabian coffee-growing districts. Some orange and lemon groves planted in recent years are giving good results, and it is not improbable that within a few years the needs of the colony and of various Red Sea ports and places can be supplied with these fruits from Eritrean groves. Potatoes and other vegetables of good quality are raised in sufficient quantities to supply needs in the larger trading centers and to provision ships calling at the port of Massaua. Using the words of an Italian review of agriculture in Eritrea, it may be said that real agricultural development in the colony is not to-day but may and should be to-morrow.

STOCK RAISING.

There are many cattle, goats, sheep, mules, and camels in Eritrea, and some pigs. The herds and flocks which pass and repass the frontiers on the Sudan and Abyssinian frontiers of Eritrea make difficult an accurate estimate of the numbers of domestic animals in the colony. Sheep and goats are most numerous and it is probable that their number exceeds a million. There are probably not so many as a million cattle. Reports published from the Aden consulate some years ago gave higher estimates for the live stock of Eritrea, which estimates were based upon the ideas of traders in hides and skins of many years' experience in the Red Sea district. It is, however, an indisputable fact that stock raising is the most important industry in the colony and that his domestic animals form the basis of the living and wealth of the average Eritrean native. More than one-half of the population is exclusively pastoral.

The cattle are mostly of the zebu or hump-backed type, and the sheep are usually not wool bearing. The larger cattle of the plateau will yield as much as 500 pounds of meat, while the smaller animals of the desert or semidesert lowlands will not average more than 250 pounds of meat. Milch cows yield from 3 to 6 quarts daily, and much of this milk is used to produce butter, which is in turn converted into ghi, a form of clarified butter widely used by the Moslem natives in particular. Ghi is exported in comparatively important quantities. Most of the flocks and herds are owned by the nomadic Moslem tribes, who move about from pasture to pasture and from water hole to water hole, depending upon the season.

The domestic animals supply, in addition to meat and milk, the hides and skins which their owners trade for grain, cotton piece goods, and the few other commodities necessary to their primitive style of living that they do not themselves produce. Camels, horses, mules, and donkeys are raised mainly for use as pack animals, although oxen are also used for this purpose.

COMBATING ANIMAL DISEASES.

Rinderpest and foot-and-mouth diseases are said to be prevalent in Eritrea, as well as in Abyssinia, and rinderpest in particular causes at times grave mortality among the herds of the colony. The Government of Eritrea maintains at Asmara an antirinderpest serum laboratory in charge of competent veterinarians and bacteriologists, which is the only institution of its kind in all the Red Sea district. The laboratory has stations throughout the colony, where infected animals are either brought by their native owners or are rounded up by gendarmes for immunization. A charge is made for immunization of animals. Rinderpest in the colony could be kept under control if it were not for new infection constantly being introduced from Abyssinia, where no measures are taken to combat or control it.

The existence of a serum laboratory and an organization for fighting cattle diseases is a distinct encouragement to the important livestock industry of Eritrea and an evidence of the enterprising energy of the colonial Government, which is sparing no effort to assist and encourage economic progress.

HIDES AND SKINS.

In 1918 Eritrea exported 9,355 metric tons of hides and skins, according to Government statistics, but a considerable part of this quantity, probably more than half, undoubtedly did not originate in the colony. Large quantities of hides and skins from Abyssinia and the Arabian Red Sea coast pass through Massaua in transit and are naturally included in the export returns of the port. Exports of hides and skins in recent years were in the ratio of about 5 pounds of hides to 1 of skins.

During the middle of December, 1919, unselected goatskins were selling at 225 Italian lire per score in Asmara, and hides of good quality were selling at 7 Italian lire per kilo (2.2046 pounds). At this date lire were quoted around 13 to the dollar in New York. Considerable quantities of skins and hides were being offered and some exporters had on hand as much as 200 metric tons for which they claimed to be unable to obtain a reasonable price offer from foreign markets. Hides offered in Eritrean markets average little more than 5 kilos in weight, although some exporters had several tons of selected hides averaging nearly 15 kilos in weight. Goat-skins offered in the market were averaging 100 to 102 pounds per hundred.

The bulk of the hides in the Eritrean market are flat and not folded as are most of the Abyssinian hides entering Jibuti, from which source come many of the hides in the Aden market. There is thus eliminated the procedure followed in Jibuti of soaking in sea water the folded hides (folded in approximate yard squares) for the purpose of unfolding them and perhaps for the additional purpose of adding slightly to their weight by the salt absorbed from the sea water.

In former years many hides and skins went from Massaua to Aden to find shipping connections, but now that Massaua is comparatively

well served by shipping services to and from Europe it is becoming much more important as an export market for hides and skins. These improved foreign shipping facilities have resulted in the sending of quantities of hides and skins from the neighboring Arabian coast to Massaua rather than to the more distant port of Aden for export abroad.

MEAT PACKING.

The meat-packing plant at Asmara is the most important manufacturing industry in the colony. This plant was established just before the war as a result of the demand for canned meats for the use of the Italian army. It is operated by a firm that has large interests in Italy connected with the canning and preserving of food-stuffs.

This plant at present kills an average of 100 beef cattle per day and 300 to 400 hogs per year. Chickens are also canned for export to Italy, but that is an unimportant feature of the packing plant, owing to inability to secure any considerable quantity of chickens. Canned beef is the principal product, but tripe, suet, and brains are also put into cans for export.

The pork-packing feature is yet quite small, because few hogs are raised in the colony, and the packing plant has only recently arranged to raise its own hogs. Imported hogs have been crossed with inferior native stock, and the manager of the packing plant stated that the herd would be increased so as to provide from 3,000 to 4,000 head per year. The hogs are fed largely with refuse from the beef-packing plant, an important item being a slop preparation made chiefly from the cooked livers and hearts of the cattle killed. Some of the hogs already raised and killed at the plant have weighed over 300 pounds.

The hides from the packing plant are taken on contract by a large Italian firm engaged in import and export business in the colony. The manager of the plant stated that he had not yet made satisfactory arrangements for the disposition of the considerable quantity of bones and glue stock available.

The cattle killed are mostly from northern Abyssinia, where they are bought by independent buyers under contract to supply the packing plant and driven overland to Asmara. The average weight of the animals slaughtered is from 350 to 400 kilos (770 to 880 pounds). Prices paid for cattle on the hoof were not stated.

Owing to the cool climate of the Eritrean plateau, the packing plant has been able to do without refrigerating, but such facilities must be provided when the pork-packing feature is increased. The greatest difficulty in operating the plant is to obtain a supply of fuel, which is wood secured from a country not too heavily forested at the best and which in the vicinity of Asmara has long since been cut out by the natives.

The plant employs about 250 natives, many of them boys and girls, because they learn quicker, and 15 Europeans. The rate of pay is from 2 to 4 Italian lire per day.

The exports of canned beef alone from the Asmara packing plant to Italy in 1917 amounted to 1,028 metric tons, and succeeding years will show an increase over this amount.

Some American machinery is used at the Asmara packing plant.

FLOUR MILLING.

There are two flour mills in Asmara and one each in Keren and Adi Caieh. Wheat, barley, and durra are ground into flour for local consumption. As some of the grain for these mills must be imported, there is, of course, no export of flour. These mills are small and do not have up-to-date machinery. There will undoubtedly be small mills established at other trade centers to make flour for local consumption, and the possibility of selling a limited amount of machinery for use in small flour mills is worth consideration. Northern Abyssinia is an important grain-producing territory, and the inhabitants reduce their grain to flour of some sort for bread making. With the promise of improved transportation facilities it is probable that a great deal of grain will come to southern Eritrean centers for grinding into flour, and such development will necessitate an increase in the number and size of local Eritrean flour mills. The inhabitants of both the Abyssinian and Eritrean plateaus depend largely upon breadstuffs for food.

MINING INDUSTRY.

Three gold mines have in past years been opened and worked in Eritrea. All are quartz mines. Gold mining has not, however, been profitable and the three mines are at present closed down. The natives bring in small amounts of gold which they pan from stream beds. Unless considerably richer deposits are discovered, it is not likely that gold mining will develop to any important extent in the colony.

Several apparently extensive deposits of iron ore have been located, but no development work has been done, mainly on account of lack of transportation facilities. The most notable deposit of iron and manganese is at Mount Ghedem, on the coast, within a few miles of Massaua. It is understood that active mining work may in the near future be undertaken by an Italian company. The transportation difficulty in this instance is not great, as the mountain descends to an arm of the sea that is less than 5 miles across to the port of Massaua.

Traces of oil have been found in the Dahlak Archipelago, which consists of about 122 small islands lying just off the entrance to Massaua Harbor. These islands are at present inhabited only by fishermen.

There are good deposits of limestone at different places in the colony, and local lime burning supplies lime for building needs within the colony.

Careful search made in all parts of the colony has so far failed to reveal any coal deposits.

POTASH MINING.

By far the most important mineral industry in the colony is potash mining, and, strictly speaking, the industry but not the mine belongs to Eritrea. The potash deposit on which this industry depends is located in the Asale salt plains, 200 feet below sea level and about 10 miles over the Eritrean frontier in Abyssinia. The deposit lies about

60 miles inland, due south of the island of Baka, which is near the Eritrean coast on or about the fifteenth degree of north latitude.

A port has been built on the coast at this point and is known as Mersa Fatimari. From Mersa Fatimari a light narrow-gauge railway has been built to the Abyssinian frontier, a distance of about 46 miles, and a wagon road serves transportation needs for the 10 or 11 miles through Abyssinian territory to the potash deposits. Motor trucks are used on both the wagon road and the railroad. Locomotives were originally used on the railroad, but because of the expense and difficulty of securing fuel and the scarcity of water for the boilers, the use of motor trucks with wheels fitted to the rails has been found less expensive and more practicable. Sixteen motor trucks are used on the railroad.

It has been found that the potash taken out is rapidly replaced by natural action, and the deposits are, therefore, considered practically inexhaustible. The salts as mined are 90 per cent pure. Since 1915, when serious development work was first undertaken on these deposits of potash salts, the greatest quantity exported in any one year was in 1917, when 3,578 metric tons were shipped from Massaua. Half of this amount went to Italy, two-sevenths to France, one-seventh to Great Britain, and the balance to Egypt.

The potash mine is worked under a 35-year concession obtained by the Italian discoverer of the deposit in 1911 from the Abyssinian Government. Recently the work has been considerably interfered with by Abyssinian chiefs in the district, who have levied tribute upon the Italian company and demanded payment under penalty of stopping the work. The central Abyssinian Government has apparently not been able to exercise its authority sufficiently in the potash district to prevent this allegedly illegal levying of tribute or taxes.

The Italian Societa Mineraria Coloniale is working the mine, and when it began operations in 1915 the demand for potash from munition works in Europe permitted a price to be obtained that gave a very handsome profit. Since the armistice the demand for potash for munition manufacture has naturally fallen off and the price has also declined considerably. The operating company is now concerned in developing new demands and markets. Mersa Fatimari, the potash port, is about 76 miles south of Massaua, and the company transports its product by one small steamer and native sailing craft to the port of Massaua for export. The potash is usually sacked and transshipment at Massaua offers no difficulties. From 5,000 to 8,000 tons a month could be supplied under normal conditions. The company employs about 1,000 laborers at the mine.

FOREST PRODUCTS.

The forests of Eritrea are not heavy or widely extended, and forest products are not, therefore, relatively important. The wild olive (*Olea chrysophylla*) grows in considerable quantities, and because of its beautiful grain is used in cabinetwork. This wood is now a small item in export trade, but there are sufficient quantities to make it an important item in the commerce of the colony. A so-called juniper tree (*Juniperus procera*) grows in considerable numbers in the colony. Its red wood with fine grain is much esteemed for

cabinetwork, as well as for coarser uses. The baobab tree (*Adansonia digitata*) is also a common tree in parts of Eritrea. Forest conservation is receiving attention in the colony, and considerable tracts of the limited forest districts remaining are now Government reservations and the cutting of wood or timber from them is under Government control. Native gendarmes patrol the forest districts to report any violation of the Government's forestry regulations. Lumbering on a modern commercial scale could not be supported by Eritrean forests.

A POSSIBLE SOURCE OF RUBBER.

Except in the extreme southwest of the colony, there are now no rubber-producing trees or plants, unless the candelabrum tree (*Euphorbia abyssinica*) can be so classified. This tree has thick quadrangular trunk and branches, which are leafless and covered with small spines. The candelabrum tree much resembles a giant cactus. It reaches a height of 25 to 30 or more feet. This tree is very abundant in Eritrea and Abyssinia. It exudes, when wounded, large quantities of milky juice that is caustic and poisonous and also has a rubber content. Experiments have succeeded in obtaining rubber from this juice, but no commercially practicable process for extracting the rubber has yet been found.

The Aden consulate has suggested to the Eritrean Government the possible use of a process recently developed by an American company for obtaining a rubber gum and other commercial products from the ocatillo, or so-called "coachman's whip," which grows profusely in the semidesert tracts of southwestern United States. This company is said to use a distillation furnace originally designed for the handling of lignite coals. The plant is chopped into small pieces and subjected to heat of 1,400° F. The volatile matter, carrying rubber, etc., is collected as it forms. If this or some other commercially practicable process can be applied to the extraction of the rubber content of the milky juice of the candelabrum tree, there might be developed an industry of unusual profit and importance in the colony of Eritrea and in Abyssinia. There is a practically unlimited supply of the raw material in these countries, and the propagation of the plant is very easy by simply planting cuttings taken from branches of the tree.

GUM ARABIC.

Several species of acacia abound in Eritrea, but only in the west where the colony merges into the Sudan are any considerable quantities of the acacia shrub which yields the commercial gum arabic. The gum from this section is of excellent quality, being very much like the high-class Sudan gums. Exports of acacia gums in 1917 amounted to a little more than 500 metric tons, and it is probable that this industry will develop considerably in the future.

DOM NUTS.

The so-called dom-nut palm (*Hyphaene nodularia*), which abounds along the Barca River and its affluents in western Eritrea, is very important to Eritrean commerce. The dom nut is a sort of vegetable

ivory used in the manufacture of buttons, and the nuts from the Barca Province not only supply a button-manufacturing industry of importance already established in the colony, but in their unmanufactured state are a valuable item in the export trade of the colony. In the Province of Assab, along the Red Sea coast, is found *Hyphaene thebaica*, another species of the dom palm which furnishes a nut of much less commercial value than that of the *nodularia*.

The Eritrean dom nut resembles the American vegetable ivory nut (*Phytelephas macrocarpa*), but is darker in color, smaller in size, and contains a larger cavity, which, of course, causes it to yield less material of commercial value. The average Barca River dom palm yields as many as 200 pounds of nuts per year when conditions for its growth are favorable.

Agordat and Keren are the centers of the dom-nut trade. An Italian company has a concession for the gathering and export of these nuts, which are collected from 12 stations on the Barca River and its affluents and brought by caravan over distances of 50 to 250 miles. All the nuts gathered for this company eventually arrive at Keren, where part of them are made into buttons at the company's factory and part are cleaned and exported to Italy and France. At the present time the company is using at its factory about 1,000 metric tons of nuts and is shipping not less than 2,000 tons per annum. Export figures from the Massaua customs for the year 1918 show a total export for that year of 3,645 metric tons of dom nuts or dom-nut products.

At the end of 1919 the button factory at Keren was producing about 1,000 gross of buttons daily. Native labor is employed under Italian supervision. The heavy and more dangerous cutting work is done by men, who are paid an average of 4 Italian lire per day, and the lighter and finishing work is done by women and girls, who are paid an average wage of 2½ Italian lire per day. This button factory was established in 1913 and is constantly growing. To-day about 9 Europeans and 200 natives are employed.

Most of the work of button making is done by machinery and some of the machines are very ingenious. The buttons are white or nearly white in color. Many of them are dyed at the factory, khaki and black being the principal colors used. The fuel problem, which is always difficult in Eritrea, is met largely by the use of the husks and other waste resulting from the cleaning and preparation of the nuts.

A camel carries on an average a load of 400 pounds of nuts from the producing districts to the plant in Keren. The probable future extension of the railroad from Keren to Agordat, which is the nearest important trading station for the nut collection, will cheapen and facilitate transportation and result in the marketing of greater quantities of nuts. The dom-nut industry may, therefore, be regarded as one of the firmly established, profitable, and most promising industries of the colony.

BEESWAX.

Beeswax may be considered a forest product in Eritrean commerce, as the bulk of it is from the nests of wild bees in the forests. The baobab tree, already mentioned, is a favorite place for the build-

ing of nests by wild bees, because the enormous trunk of spongy wood often contains cavities. Normally Eritrea exports nearly 60 tons of beeswax per year.

SALT MANUFACTURE.

Of the products contributed to Eritrean commerce by the Red Sea the salt obtained by evaporating sea water is the most important. There is an installation at Massaua where sea water is brought into large pans dug in the earth and evaporated by the heat of the sun. This plant yields an average of more than 40,000 metric tons of salt per year, most of which is exported to India. The building of a number of large salt pans at Assab is now under way, and it is probable that the Assab plant will in a short time produce a quantity equal to that now obtained at Massaua. Besides these two large commercial plants there are a number of small native-owned salt pans along the more than 600 miles of Eritrean Red Sea coast.

This industry is a very profitable one because of the comparatively small investment for the plant. The pans are dug in the earth along the shore, the water is brought from the sea into them by gravitation or by the use of windmills, and the sun furnishes the heat for evaporation. The only equipment needed is a simple crushing mill for reducing the size of the lumps of salt, which are dug from the pans by native labor, and a small railway for conveying the salt from the pans to the crushing mill and from the mill to the electrically operated conveyor that throws the salt into the holds of the ships for export.

Arrangements for loading salt at Massaua are superior to those available at the largest and most important salt works in the Red Sea district, which are located at Aden. At the latter place the salt is usually conveyed from the plant to the ship side in barges and loaded with buckets manipulated by steam winches. When a ship is low enough in the water, a sort of conveyor system is used at Aden, but that is not always feasible. Salt making throughout the Red Sea district is a very profitable industry, owing to the aid given by nature, thus obviating the purchase of expensive equipment and fuel.

There are important natural deposits of rock salt along the Dunkali coast which supply native traders with the blocks used as a medium of exchange in Abyssinian trade.

MOTHER-OF-PEARL AND OTHER SHELLS.

The coral banks along both sides of the Red Sea are rich in marine life, and fishing for pearls and mother-of-pearl shells is an old and important industry. Native fishermen carry on this industry, and quantities of shells are brought to the Massaua market not only from the Dahlak and Assab Harbor islands on the Eritrean side of the Red Sea, but also from the Arabian pearl banks, which include the islands of Farsan, Hanish, and Jebel Zukur.

The fishing is done with sailing dhows of 15 to 50 tons in size, which carry a crew of 12 to 25 natives, usually Somalis or Arabs. The only equipment needed by the native diver is a metal or wooden clamp to close his nostrils when under the water. He uses a heavy

stone to carry him to the bottom, where he works rapidly to fill a basket with such shells as are within reach. He comes up for breathing at intervals varying from 1 to 3 minutes. These divers work only in the more shallow water, seldom going beyond a depth of 50 to 60 feet, and it is probable that rich supplies of shells in deeper waters along the pearling banks have never been touched. "Saddaf" and "bulbul" are the native names for the two principal kinds of mother-of-pearl shells obtained by the fishermen; the scientific names are *Meleagrina margaritifera* and *M. muricata*, respectively.¹

The Aden market receives shells from various parts of the Red Sea and Gulf of Aden, while the Massaua market receives its principal supply from near-by fishing beds. In Eritrean waters pearl and pearl-shell fishing is nominally under Government control, and all fishermen are expected to bring their product to the Massaua market. It is probable, however, that Government regulations are evaded when the fishermen think they can obtain a substantially higher price by carrying their shells to Aden, Jibuti, or other local Red Sea markets. Somalis and Arabs do most of the pearl fishing, and some of the Arab dhows come to Red Sea pearling banks from as far away as the Persian Gulf.

The so-called "saddaf" shell, which is considerably larger than the "bulbul," is required by regulations to be sold at auction in the customhouse at Massaua. At an auction held in November, 1919, the average price paid per kilo (2.2046 pounds) was 3.65 Italian lire. The "saddaf" shells offered usually fall into three classes, namely, 8 to the 100 pounds, 22 to the 100 pounds, and 72 to the 100 pounds. The shells average 8 inches in diameter. "Bulbul" shells are much smaller.

Pearls are sold to French, Arab, and British Indian buyers, who specialize in the business.

The trocas shells are also an important item in the Massaua export market. Some tortoise shells are also marketed, but the quantity is not important. In a normal trade year the Massaua market exports about 400 tons of the "saddaf" shells, 300 tons of the "bulbul" shells, 900 tons of the trocas shells, and about 1 ton of tortoise shells.

FISH PACKING.

The waters of the coral banks on both sides of the Red Sea are rich in edible fishes, and definite plans have been made by Italian companies to build and operate fish-packing plants at Massaua and Assab. The principal products of these plants will be tuna fish and sardines. Some kinds of fish will also be salted and dried. Owing to the abundant supply of raw material and the comparative ease with which it can be obtained in quantities, the future of the fish-packing industry on the Eritrean coast should be very important.

SUMMARY OF ERITREAN INDUSTRIES.

From the foregoing pages it will be noted that Eritrea possesses, in addition to the natural industries of agriculture and stock raising, the beginning or basis, or both, for a substantial development of

¹ Fishing for mother-of-pearl shells in the Red Sea and Gulf of Aden is discussed in some detail in Commerce Reports for Apr. 9, 1918.

such industries as meat packing, fish packing, salt manufacture, button making, and flour milling. In addition to the industries that have been directly referred to, there is soap making, which has lately received attention by the establishing of a factory in Asmara. Fats for this industry can be secured from local sources, and only the ingredients of much less bulk, such as resin and caustic soda, will be required from outside sources.

The cities of Massaua and Asmara have electric light plants for public service, and in the first-named place there is an ice factory with a capacity of 15 tons daily and a distilling plant which can supply about 80 tons of water daily when such amount is necessary to supplement the supply of fresh water from natural sources.

At Asmara there is under construction a series of artificial lakes extending from the city a distance of about 10 miles to where there is a precipitous drop toward the coastal plains. The water from the lakes will drain to this point, where a power plant will be built for the production of electric energy from the fall of the water. The water passing from the power plant will be carried down valleys leading to the sea and will serve in the dry season for irrigation of agricultural lands along these valleys. The Asmara hydroelectric plant is expected to develop about 1,000 horsepower.

Eritrea is much more advanced in industrial development than any other political division in the entire Red Sea commercial district.

TRANSPORTATION FACILITIES.

Considerable progress has been made in the development of land transportation in Eritrea, and this good work continues. The Government of the colony has realized that, owing to its comparatively small size and lack of any important variety of natural resources, the commercial future lies largely in the encouragement of trade with the opposite Arabian Red Sea coast and with its larger and richer neighboring territories of the Sudan and Abyssinia, but particularly with the latter, which is practically a virgin field for commercial exploitation. Railways and wagon roads have been built and attention given to the organization of the caravan routes. It will take many more years entirely to replace the latter with made roads.

RAILROADS.

The one completed railroad in the colony is the Massaua-Asmara road. The length of this road is about 80 miles and the gauge 90 centimeters (35.43 inches). Its ascent from sea level at Massaua to an elevation of about 7,200 feet at Asmara gives a route with remarkable scenic effects. There are 29 tunnels in the 80-mile length of the road. This railroad was planned and built by the Government. Construction was begun in 1900 and completed in 1911. The delay in completion was due largely to the fact that there was first built a good wagon road from Massaua to Asmara, which in no place has more than a 7 per cent grade and which served transportation needs to a large extent. The railroad bed is well ballasted, and the service is well organized. There are two regular passenger trains per week each way, but special trains are run for the convenience of passengers

to or from steamers arriving at and departing from Massaua. The freight trains carry a passenger coach when required, and there is really a service much more frequent than biweekly. Six hours are required for the trip from Massaua to Asmara or from Asmara to Massaua.

Passenger rates on the Massaua-Asmara railroad are 48, 24, and 12 Italian lire, respectively, for first, second, and third class fares. These rates are double those prevailing before and during the first part of the World War. The road is well patronized by business men, who have their residences in the cool and refreshing atmosphere of the highlands, but for business reasons must make frequent trips to Massaua, where the climate is generally hot and oppressive. The fact that Massaua residents can in a few hours reach a cool and agreeable climate gives that port an advantage over the other Red Sea ports, all of which are like it in having the disadvantage of a climate that is generally too hot for the health and comfort of Europeans.

The bulk of the imports and exports of Eritrea pass over the Massaua-Asmara railroad. Freight rates are maintained at as low a rate as is possible in order to encourage traffic. Rates are calculated per ton-kilometer (1 kilometer equals 0.62137 of a mile). Merchandise is divided into five classes, for which the rates per ton-kilometer under the last tariff, published in 1914, were as follows: Class I, 1 lira; class II, 0.50 lira; class III, 0.40 lira; class IV, 0.30 lira; and class V, 0.20 lira. On account of loss by exchange and of increased operating expenses due to conditions growing out of the war these base rates have been increased 100 per cent, and further increase may be necessary. These actual or possible increases are not yet regarded as permanent. The principal commodities of probable interest to American commerce are classified as follows: In class II are placed cotton piece goods, automobiles, gasoline; in class III are hardware, iron, and steel (including galvanized-iron sheets); in class IV are kerosene (upon which a special tariff of 20 per cent additional is also charged), beeswax, canned fruits and vegetables, hides and skins, soap; and in class V are lubricating oils and greases and dom nuts. The exact distance upon which freight rates between Massaua and Asmara are figured is 120 kilometers.

Work on the extension of the railroad from Asmara to Keren, a distance of 105 kilometers (65.24 miles), is proceeding and the road will be opened to traffic before the end of 1920 if the steel rails, which will come from the United States, are received in time. There are also definite plans for extending the railroad from Keren to Agordat, a further distance of 72 kilometers (44.73 miles), and it is probable that the steel for this line will also be obtained from the United States. The colonial Government has so far undertaken all railroad construction and management.

MOTOR AND WAGON ROADS.

Eritrea has about 300 miles of motor and wagon roads in good repair. The main system of roads is on the plateau which extends through the colony from north to south. All motor and wagon roads have been built by the military administration of the colony, and their maintenance is under its charge. Grades are restricted to 7

per cent and are usually less. The trunk road following the trend of the plateau extends south and a little east from Keren, via Asmara, Saganeiti, Adi Caieh, and Senafe, to Fort Dabormida on the Abyssinian frontier, a distance of approximately 170 miles. From Asmara one can go south over another motor road via Adi Ugri to Adi Quala, a distance of about 35 miles. Another trunk road is that from Massaua to Asmara, which, however, is not kept in the best state of repair because the railroad has largely taken its place. From these main lines of road there are several shorter branches running to trade centers of less importance.

Over all main roads the Government operates post wagons, which also carry passengers. It is also possible to secure Government motor-car and motor-truck transportation for both passengers and merchandise. Owing to the heavier cost of this kind of transportation for merchandise, however, a great deal of it is moved by pack animals or in two-wheeled carts drawn by mules. When the disorganization growing out of war conditions has become more adjusted it is the intention of the Government to grant concessions to private transportation companies for motor and wagon passenger and freight service over these roads. The colony of Eritrea possesses more motor and wagon roads than all other Red Sea political divisions combined.

CARAVAN ROUTES.

The Eritrean road system has caravan route tributaries reaching to all parts of the colony and into the Sudan and Abyssinia. Camels and mules are the pack animals ordinarily used. A camel will carry between 400 and 500 pounds and travel an average of 12 to 15 miles per day. Three Italian lire per day is fair hire for camels. Mules will carry usually from 180 to 220 pounds and travel an average of 25 miles per day. The hire for mules varies much more than the hire for camels, but is about 2 Italian lire per day. The Eritrean mule, like his relative the Abyssinian mule, is a strong animal with great endurance and is much better suited to packing in the highlands than is the camel. Pack animals of both kinds are reasonably plentiful, and the average trader has no difficulty in moving his merchandise when, where, and how he pleases. The colonial Government takes a special interest in providing and regulating interior transportation for the benefit of trade. It particularly encourages the visits of traders from Abyssinian and Sudanese territory, and provides caravanseries for the accommodation of both men and animals at all trading centers.

All roads and caravan routes in Eritrean territory are safe, and traders using them are not subject to attacks by brigands or to the payment of tolls to the native chiefs through whose territories the routes pass, as is the case in some parts of Abyssinia.

WATER TRANSPORTATION.

There are no navigable rivers or lakes in Eritrean territory, and water transportation is therefore confined to the Red Sea coast. The ports of Massaua and Assab both have direct shipping connections with Europe and are ports of call for Red Sea coasting steamers and

sailing craft. The ocean shipping services of Massaua and Assab are discussed in detail in subsequent pages of this report under the heading of special factors influencing the development of Eritrean commerce.

FINANCE AND BANKING.

Eritrea being an Italian colony, it naturally follows that the currency unit is the Italian lira and that financial practices and banking laws are Italian in spirit at least. For the past two years lira currency has been represented only by bank notes and fractional copper coins. Practically all Italian silver coins have disappeared from circulation. As in Italy, 1 and 2 lira notes are used to meet the shortage of small silver coins. The Austrian Maria Theresa trade dollar is popular among native traders in the colony, as it is in all the political divisions making up the Red Sea commercial district, but the colonial Government discourages the use of this dollar. Rupees are also traded among merchants in Massaua, being especially desired by the British Indian merchants.

THE NEW ITALIAN TRADE DOLLAR.

A royal Italian decree of May 31, 1918, provides for the coinage by the royal mint at Rome of a silver trade dollar to be known as the dollar of Italy. This coin is primarily for use in Eritrea, where it is meant to replace the well-known Austrian Maria Theresa dollar or thaler; but the possibility that it will replace the Austrian trade dollar throughout the Red Sea district was undoubtedly an important consideration in providing for the issuing of this new coin. The first consignments of the Italian dollar, amounting to somewhat less than a million, have recently been put into circulation in Eritrea.

IMPORTANCE OF AUSTRIAN TRADE DOLLAR.

For more than a hundred years the most important and widely used coin in the Red Sea commercial district—which includes Eritrea, Abyssinia, French, British, and Italian Somalilands, Socotra, Makalla, Aden protectorate, and the Arabian Red Sea Provinces of Yemen, Asir, and Hejaz—has been the Maria Theresa dollar. This trade dollar was first minted at Trieste in 1780 to serve the eastern commerce of that port. Up to 1914 considerable quantities of these dollars were minted each year at Trieste, usually bearing the date of 1780, and it is estimated that at the beginning of the World War there were as many as 200,000,000 Maria Theresa dollars in circulation or hoarded in the Red Sea commercial district. Naturally the sending out of new supplies from Trieste was stopped by the war. The rise in the price of silver has resulted in the buying up of many of the dollars in this district for export to India, England, and other places for melting down into bullion bars.

It is estimated that fully a third of all the Austrian dollars in circulation at the beginning of the war in this commercial district have gone to the silver market of the world in the form of bullion. With no new supplies available there has resulted a serious shortage in a medium of exchange for commercial purposes, and traders have found themselves much handicapped in doing business away from

the seaports. The Red Sea native much prefers the Austrian dollar to any other coin, and often he will refuse to sell his coffee, skins, hides, and other products for other coins. This situation can only be met by barter; that is, by actually trading to the native cotton piece goods and other manufactures that he wants for his own products. Obviously such a situation does not make for commercial progress, and this is one reason for the issuance of the new Italian dollar.

ITALIAN TRADE DOLLAR IN PLACE OF AUSTRIAN DOLLAR.

While the Italian dollar is planned to help Eritrean commerce, the Italian national pride has been a more important factor in bringing about its issuance. The Italian Government has felt that its colony of Eritrea should not be permitted to depend upon an Austrian trade dollar to facilitate trading, and considers the present an opportune time to substitute for it a new trade dollar bearing the stamp of Italian sovereignty. Another motive in the coining of the new dollar is to forestall a resumption of the coining of the Maria Theresa trade dollar, which has long been an important and profitable item of Austrian commerce. The Italians having succeeded to the possession of Trieste, the home of the Maria Theresa dollar, it has evidently been thought fitting by them that an Italian trade dollar should also succeed that bearing the Austrian stamp. Further, if the new dollar can be popularized in other parts of the Red Sea district, as is planned, it should be a very valuable aid to Italian political and economic influence.

The Maria Theresa dollar was coined in Trieste for private demands and a mint charge of $1\frac{1}{2}$ per cent collected. It was solely a trade dollar and was not issued for governmental use. The Italian dollar is coined in Rome for the Eritrean Government, but will also be coined upon private demand. Italian money is the legal circulating medium in Eritrea, and while the new dollar will be coined at the request of the Eritrean Government it will have the identity solely of a trade dollar.

DESIGN OF NEW ITALIAN TRADE DOLLAR.

Considerable thought was given to the design for the new Italian dollar. Three ideas were considered: To reproduce the so-called St. Mark dollar issued in 1783 by the old Venetian Republic for the Levant trade; to create an absolutely new design; and to use a design which would resemble the Maria Theresa dollar but with changes to indicate its Italian character. The St. Mark dollar was objected to because of the lion on one side and the inscription referring to the Republic of Venice, which would not obtain the Italian political aims desired. One design for an absolutely new dollar had on one side of the dollar the bust of a female figure symbolizing Eritrea and on the other side the Italian eagle bearing a shield with a star. The principal objection to this design was that it would be more difficult to introduce because of its dissimilarity to the Austrian dollar. The Red Sea native is decidedly conservative and much disinclined to accept a substitute for his favorite Austrian dollar, and any substitute offered must resemble the old dollar in order to have a chance to establish itself in his favor.

A compromise design was finally accepted, and its description is briefly as follows: One side shows the bust of a female figure symbolizing Italy and the inscription "Regnum Italicum," with the date 1918; the reverse shows the Italian eagle with the shield on its breast bearing the cross of Savoy and the inscription "Ad Erythr. Negot. Commod. Arg. Sign." (*Ad Erythraeorum Negotiorum Commoditatem Argentum Signatum*). On the contour or edge of the coin is repeated three times, at equal intervals, separated by a star and palm leaves, the group of letters "F. E. R. T.", standing for the motto "Fortitudo ejus Rhodum tenuit" of the House of Savoy.

ITALIAN AND AUSTRIAN TRADE DOLLARS COMPARED.

Thus the new dollar has in place of the effigy of Maria Theresa on the Austrian dollar the effigy of symbolic Italy, which resembles somewhat that of Maria Theresa but lacks on the shoulder of the robe worn the brooch of 10 jewels, which is important to the native user of the Austrian dollar, as it indicates whether or not it is so much worn that it has lost weight. On the reverse side the double-headed Austrian eagle has been replaced by the single-headed Italian or Savoyard eagle, and the Austrian coat of arms on the shield carried on the eagle's breast replaced by the cross of Savoy. The difference in inscriptions is not important, as the native does not read them, but he has noticed already the absence of the shoulder brooch on the female effigy; and the substitution of the cross on the new dollar may also be objected to by the Red Sea natives, who are mostly Mohammedans. There is, however, a strong resemblance between the two coins and the design is considered an attractive one in Red Sea commercial circles.

WEIGHT, SIZE, AND VALUE OF THE TWO DOLLARS.

In weight and size the two dollars are almost identical. The Austrian dollar averages in weight 28.0599 grams (1 gram equals 15.432 grains) of silver, with a fineness of 833.333 and a diameter of about 40 millimeters (1 millimeter equals 0.03937 inch). There is a slight variation of this weight and measurement in coins of different periods, although all are of the same design and bear usually the same date. The new Italian dollars will average 28.0668 grams of silver of 835 fineness and have a diameter of 40 millimeters.

Theoretically the Italian and Austrian dollars have the same value, but some traders are understood to be offering in Eritrea a premium of one-half lira for Austrian dollars to be used in the Abyssinian trade. The Abyssinian is a particularly conservative individual, and it will probably be some time before he will accept the new trade dollar as the equivalent of the Austrian dollar, although the former weighs slightly more. The new Italian dollar is not yet in circulation in Aden.

IMPORTANT INFLUENCE ON ITALIAN PRESTIGE.

Indications are that the coinage of the Maria Theresa dollar will not be resumed, at least not in the near future, and that being the case, the new Italian dollar has a favorable opportunity to take its place in Red Sea commerce, much to the advantage of the political

and economic prestige of Italy and to the profit of those Italian banks and merchants dealing in the dollars. It is believed that the Red Sea commercial district could take upward of 2,000,000 of these trade dollars per year. The proposed substitution of a new trade dollar for the old and established Maria Theresa dollar in this district promises to bring about an interesting contest between commercial progress and the decided conservatism of the native producer in Red Sea territories.

Abyssinia offers the most important field for the use of these new dollars, and if they are established in that country the result will undoubtedly be decidedly in favor of the development of Italo-Abyssinian commercial relations. It is understood that prominent Arab merchants located in Eritrea will also undertake the introduction of the new Italian trade dollar into Arabian Red Sea ports. The commerce of these ports, which has long been controlled from Aden, is an important consideration in the future development of the Eritrean port of Massaua, and the dollar is likely to have a favorable influence in this situation.

This enterprising step of the Italian colonial Government to replace the Austrian Maria Theresa trade dollar will be not only a decided advantage to Italian commerce in all the Red Sea territories, but will also be an advantage to trading communities of other nationalities of the district, which have been inconvenienced by the trade-dollar shortage.

BANKS.

The colonial Government bank is the prominent Banca d'Italia, which is well known in international commerce. In Eritrea this bank has branches at Massaua, Asmara, Adi Caieh, and Keren. It issues paper money and performs in general the functions appertaining to a Government bank. Its policy in the colony is conservative and for that reason it has not entered as intimately into the general commerce of the country as would seem possible.

The Banca per L'Africa Orientale represents the interests of the Banca Italiana di Sconto of Rome, and is very closely related to commercial operations in the colony. This bank is established only at Massaua and does not therefore offer the general service afforded by the Banca d'Italia with branches at four different trading centers. Banking business in the colony is largely concerned with dealing in exchange. In Asmara there is a local bank known as the Banca Co-operative Popolare Eritrea. These three banks are all that are established in the colony. The Banca d'Italia and the Banca Italiana di Sconto are represented in New York.

It is a general practice of Eritrean banks to charge interest at the rate of 8 per cent on overdrafts and for loans on both merchandise and real estate. The colony has ample banking facilities and reputable merchants find no trouble in having their financial transactions taken care of at reasonable rates.

GOVERNMENT REVENUE.

The colony of Eritrea is not self-supporting and it receives an annual subsidy from the Government at Rome. The amount of this annual subsidy is understood to be 6,000,000 Italian lire. Additional

sums needed for special projects in the nature of public works of various sorts are also granted by the home Government.

The principal revenue of the colony is from the customs, which in the calander year 1918 yielded 5,530,300 lire as follows: Customs duties, 3,841,500 lire; 1 per cent ad valorem tax for statistical purposes, 954,800 lire; landing charges, 220,500 lire; quarantine and other harbor fees, 373,500 lire; special taxes or assessments, 140,000 lire.

Customs duties at the port of Massaua are assessed as follows: All imports of Italian origin pay only 1 per cent ad valorem duty; kerosene, gasoline, and sugar pay a duty of 15 per cent ad valorem; cotton piece goods and yarns pay 10 per cent ad valorem; and all other imports, except grains at 6 per cent, pay 8 per cent ad valorem. The duty assessed on all exports, whether to Italy or foreign countries, is 1 per cent ad valorem. Alcoholic preparations pay 60 centesimi per liter.

In addition to the customs duties there is a commercial tax levied on trading firms; a house or real estate tax; an excess-profits tax; and a tribute or tax collected from the various native tribes. All of these taxes are more or less nominal and the revenue from any one of these sources is not nearly equal to the customs revenue. The Government also has its postal, telegraph, telephone, railroad, and interior land transport revenue, all of these public utilities being owned and operated by the Government. The total expenditures of the Eritrean Government total about 25,000,000 lire per year.

INVESTMENTS.

Although the colony of Eritrea could make good use of foreign investments to aid its economic development, the present policy of the Government and business community appears to be to discourage other than Italian investments. Railroads, motor and wagon roads, and similar public improvements are reserved for Government enterprise. Large agricultural projects, stock raising, and mining offer three sound investment enterprises which are scarcely open to foreign capital because of the restriction of concessions of public lands to Italians only. Steps have already been taken by Italian firms toward the development of all promising manufacturing industries.

It is evident that there is little facility for the investment of foreign capital in Eritrea, except in enterprises which are at least nominally Italian and under Italian direction. There is, however, no apparent reason why this situation may not change to the advantage of foreign investments.

LAND TITLES AND VALUES.

Land titles are granted by the colonial Government. There is much public land open to grant as concessions, but only Italians may take up such concessions. The colonial Government is authorized to grant concessions of public lands for 30 years; for a longer period up to 90 years the concession must also be approved in Rome.

Land values in the colony are not standardized in any definite sense and the prices paid depend generally upon how desirous the buyer is of acquiring any particular site. Sales of business sites in Massaua and Asmara have averaged around 5 lire per square

meter; and some agricultural lands have exchanged hands at prices varying from 300 to 600 lire per acre. Good building sites for business purposes in the port of Massaua within reasonable distance of the water front and shipping district, are not easy to obtain, as most of them are already in use. In Asmara and other inland trading centers there are plenty of building sites.

POSTAL, TELEGRAPH, AND TELEPHONE SERVICE.

The Eritrean postal system is organized and operated in connection with that of the home Government. As a part of the Italian system it belongs, of course, to the International Postal Union. The postal service extends to all parts of the colony, and letters addressed to any of the important trading centers are assured reasonably prompt delivery. Inland from Asmara mail is carried in post wagons, which, with a relay system for changing horses at frequent intervals, can cover more than 60 miles a day.

Postage stamps are issued in the denominations of 1, 2, 5, 10, 15, 20, 25, 40, 45, 50, and 60 centesimi, and in denominations of 1, 5, and 10 lire. The 5, 10, 15, 20, and 25 centesimi values are designed especially for the colonial postage, and all other values are Italian postage stamps surcharged "Colonia Eritrea." Special-delivery stamps are issued, and there is a system for registration of letters.

Eritrea has a direct postal service with Italy, which is generally fortnightly, but is occasionally weekly, depending upon steamers. The time from Italy to Massaua is usually two weeks, and this plus the time across the Atlantic from the United States to Italy will give an idea of the time required for mail service between the United States and Eritrea. There is parcel-post service with Italy and to all post offices in the colony. The postal rates are practically the same as in all countries that are members of the International Postal Union.

TELEGRAPHS.

Within the colony of Eritrea there are nearly 500 miles of telegraph wires, which are owned and operated in connection with the postal system by the colonial Government. The Government also owns and operates an additional length of about 660 miles running over the frontier through Abyssinia and connecting Adis Abeba with Asmara. Massaua has now no direct cable connection with the outside world, but there is a reasonably efficient foreign telegraph service via Sabderat (on the Eritrea-Sudan frontier), Kassala, and Suakim, from which latter place there is a cable. There is also an alternate service via Sabderat, Kassala, Khartum, and Wadi Halfa. Assab communicates with Massaua and Asmara by wireless telegraph, and either wireless station can communicate with Italy. Within the colony the telegraph rates are 1.50 lire for 12 words, with 10 centesimi for each additional word. To Italy the rate is 1.25 lire per word plus 50 per cent added for loss by exchange.

TELEPHONES.

The colonial telephone service, which has mainly Norwegian equipment, reaches all provincial capitals in the colony and has a total mileage equal to that of the telegraph system. Also, like the tele-

graph system, the telephone system has a wire over the Eritrean frontier through Abyssinia to Adis Abeba, a distance of approximately 660 miles. In addition to the colonial system there is a somewhat extensive mileage of provincial lines to connect various settlements within the Province to the provincial capital.

The telephone system in Eritrea is also owned and operated by the Government in connection with the postal system. A 3-minute conversation to any part of the colony reached by the main system costs 2 lire.

From the foregoing it may be understood that Eritrea has satisfactory postal, telegraph, and telephone facilities, and in that respect it is far ahead of any other political division, taken as a whole, in the Red Sea commercial district.

PATENTS, TRADE-MARKS, WEIGHTS, AND MEASURES.

Patents and trade-marks may be legally registered at Asmara, the capital of Eritrea. To obtain registration, a duplicate petition is prepared, which should include duplicate copies of the marks or patents to be registered, and filed with a fee amounting to 42 lire. If registration is granted, that fact is publicly announced in the official bulletins of the Italian and Eritrean Governments. There are lawyers practicing in the colonial capital who are qualified to undertake registration of patents or trade-marks for interested firms.

The metric system of weights and measures is established by law and is used throughout the colony. There are no native weights and measures of importance which now have any extended commercial use, as Italian influence has brought about the almost universal use of the metric system. In dealing with Abyssinian or Sudanese merchants, it is necessary sometimes to use native units of weight or measure, but this is the only notable exception. The principal Abyssinian unit of weight is the farasula of $37\frac{1}{2}$ pounds, and the principal Sudanese unit of weight is the Egyptian kantar of 99 pounds. Counting by scores is used in the skin trade.

MARKET FOR MANUFACTURED GOODS.

The manufactured articles most in demand in the Eritrean market are very much the same as those most in demand in the Abyssinian market.¹ Eritrea has only about 330,000 consumers within its own borders, but supplies the manufactured-goods wants of a large part of communities aggregating 5,000,000 people in northern Abyssinia and on the Arabian Red Sea coast. Foodstuffs, including wine, come first in the value of the colony's imports. Cotton fabrics and yarns come next, and then follow coal, kerosene, galvanized or corrugated iron sheets for building, common or laundry soap, general hardware, and gasoline.

UNBLEACHED COTTON PIECE GOODS.

In common with all other natives in the Red Sea commercial district, the inhabitants of Eritrea and the northern Abyssinians, who are supplied through the Eritrean markets, find unbleached cotton

¹ See "Abyssinia," by Addison E. Southard, Special Consular Reports No. 81, issued by the Bureau of Foreign and Domestic Commerce.

piece goods their favorite clothing. Also in Eritrean markets, as elsewhere in the district, American unbleached cottons have for many years represented the standard of superiority in goods of this class. This standard was maintained in prewar days against the strong competition of the Italian and Austrian cottons, and during the war against the Indian and Japanese grey cottons. Whatever ground has been gained by the Indian and Japanese goods has been due largely to the inability of American manufacturers to supply the market and to the abnormally high prices to which American unbleached cotton piece goods have risen in the last few years.

American goods are still to be found in the markets throughout the country, but the prices are everywhere higher than for Japanese goods, which in appearance are not inferior to the American. Indian unbleached piece goods have been established in the market, but even at a lower price the native will not take them when he can get American or Japanese, mainly because in appearance the Indian goods are so much inferior. The native consumer is also aware of the greater amount of size in grey cotton piece goods other than those of American manufacture.

In 1917, the latest year for which detailed statistics are available from the Eritrean Government, there were imported at Massaua 1,953 metric tons of grey piece goods, mostly sheetings. The custom-house at Massaua does not keep statistics of quantities in yards or meters and only weights are obtainable to indicate the amount of piece goods imported. Of the total imports, 1,064 metric tons are credited to Italy, 635 tons to Aden, 148 tons to India, and the balance to smaller export markets. No imports are credited to the United States or Japan, but a share of the imports from Italy, Aden, and India were undoubtedly of American origin, and Japanese goods are also included in the figures credited to Aden and India.

The unbleached piece goods (sheetings) at present in the Eritrean market are mostly within weights of 2.50 to 3.75 yards per pound. In the plateau markets the 3-yard weight is most popular where obtainable. The American and Indian goods come in bales of 25 pieces of 25 yards each and the Japanese in bales of 30 pieces of 30 yards each. Widths in most sorts are 36 inches.

Owing to the fact that traders have had to bring supplies from whatever source they were available, the native has come to be less particular in regard to any given weight, width, or length, a discrimination which he had been permitted to develop to a high degree before the World War interfered with supplies. This fact is particularly favorable for new competitors, as the Eritrean distributor can take advantage of the enforced suspension of discrimination and impose upon the native the makes of goods which promise most profit to himself. This is not a favorable circumstance for American goods, on which the trader has in recent years made a smaller profit than on many competing lines, but the discrimination of the native consumer has demanded that he handle them to an important extent. The native is slow to realize a change in conditions, and before he learns that he may again discriminate and demand his favorite "Americani," it is not improbable that competing makes will become more firmly established than has heretofore been possible.

Unbleached shirtings, drills, jeans, chadars, and dhoties are imported in much smaller quantities than sheetings, which have by

far the greatest interest for the American exporters. The Massaua import returns group all unbleached piece goods under one heading, not distinguishing between the various sorts. Next to sheetings the grey drills are probably the best sellers in the Eritrean market, and these come usually in 40-yard pieces of 20 inches in width, weighing 3 and 3.25 yards to the pound.

PRICES AND BRANDS OF UNBLEACHED COTTONS.

At the time the Eritrean cotton goods market was investigated there was considerable fluctuation in exchange, particularly as between the lira and the rupee, many importers paying in the last-named coin. There was also a fairly rapid rise in the exchange value of the American dollar and British pound as against the Italian lira. This caused a considerable variation in the lira prices quoted to the local distributor of piece goods, and these prices are not, therefore, quoted herein, as it is considered that they would be of little value and would very likely be misleading. American exporters or manufacturers especially interested can obtain current quotations upon inquiry addressed to the consulate at Aden.

As in the Abyssinian market, the most popular Japanese sheetings upon the Eritrean market are the "Dragon" brands of the Kanagafuchi Spinning & Weaving Co. In the American line Pelzer sheetings were well represented, and there are some brands bearing the special trade-marks of two Red Sea firms which have been importing considerable quantities of piece goods from the United States.

Cotton piece goods sold through Eritrean markets to the northern Abyssinian trade are usually paid for in Maria Theresa trade dollars, and this feature further complicates the quoting of comparative prices, as the value of the dollar goes up with the price of silver, and the Eritrean trader often finds it necessary to translate his original dollar, pound, or rupee buying price into lire and then again into trade dollars.

OPPORTUNITY FOR AMERICAN UNBLEACHED COTTONS.

American unbleached cottons have a great advantage in the Eritrean market in that their superior quality, clean color, and the minimum amount of size used in manufacture are known and appreciated by the native. On the other hand, they must pay an import duty of 10 per cent as against a duty of only 1 per cent for cotton goods of Italian origin or manufacture. With the Japanese cottons, which are their principal competitors, they are, however, on equal terms so far as the customs import duty is concerned. It is the opinion of dealers that unless the Italian unbleached cottons considerably improve over their prewar qualities the preferential tariff will not injure the possibilities of the Eritrean market for a continued and increasing sale of the American-made product.

In Eritrea as in other political divisions making up the Red Sea commercial district, there is need of more direct attention from the American manufacturers and exporters of cotton piece goods. The distribution of American cotton goods throughout this district is largely in the hands of native importers of British nationality, and while this situation has been remedied to some extent by the activity

of the one American importing firm established in the Red Sea district, there is still plenty of room for improvement, which could be made if American manufacturers and exporters would realize that in this district they have a market of important future promise for their products.

It would seem that the Red Sea commercial district should be considered one of the best and most permanent markets for American cotton piece goods. The people of this district use cotton textiles almost exclusively for clothing, and the possibility that any other sort of textile will be substituted even in part for cotton is decidedly remote. The wealthy native will wear some garments of silk, but more as a matter of vanity than for any other reason, as silk is inferior to cotton in both utility and comfort in a hot climate like that of the Red Sea district. Cotton textiles will find an ever-increasing sale in this district, and the share of American goods will depend upon whether the American manufacturer and exporter is willing to devote to this foreign market somewhat the same degree of careful attention and aggressiveness that he has given and is giving to home markets.

STYLES OF COTTON CLOTHING.

Ready-made cotton clothing is not likely to compete seriously with the sale of cotton piece goods, as the native has his own ideas as to the style in which his garments shall be made, and can afford to indulge the preference of having garments made up locally because of the skill and cheapness with which native tailors are prepared to serve him. Furthermore, many of the Moslem tribes disdain sewn garments and use the cotton cloth in the piece, winding one length about the waist and hips and draping another length over their shoulders for the protection of the upper part of the body.

The Abyssinian is more particular about having his cotton piece goods made into garments of special style, and most of the native population of the Eritrean plateau is Abyssinian in all ways, except that it owes allegiance to the Italian Government.

The Abyssinian man wears usually a pair of baggy trousers reaching to the calf of the leg, where they are tight. A shirt is worn, and a belt consisting of several yards of muslin, which is wrapped around the waist. This, with a "chamma," or a cotton shawl, thrown about the shoulders, completes the average Abyssinian or Eritrean highlander's dress. The shirt is worn long and outside the trousers. For the poorer classes the trousers and shirt are made of unbleached cotton goods, often American. As a man's financial or official status improves he uses bleached drill or shirting or a fancy woven white cloth of mixed silk and cotton. A very few of the wealthy men sometimes have these garments made of heavy figured white silk. Some wear a cotton undershirt and one or more overshirts in addition to the ordinary garb, and those who can afford it have felt hats. A silk cord, usually blue, is worn about the neck, and from it is suspended a Greek cross of precious, fine, or gross metal, according to the owner's means. Shoes or socks are rarely worn. In the cold weather a coarsely woven, heavy, black woolen garment, which resembles a blanket folded and sewn at one end, leaving an opening

for the hand, is worn. This garment, a sort of burnoose, is usually of local production.

The women often wear the same style of shirt and trousers as the men, with the same muslin belt; and they place over all a white cotton smock, which is much too long but is drawn up and held at the waist by a belt or sash. The sleeves of this smock are very loose at the top and tight on the forearm. The cuffs are often embroidered. Women also wear a gray felt hat, or one of some other color if the gray is not available. Shoes are rarely worn, sandals occasionally.

Both men and women of the poorer classes have garments of unbleached cotton sheeting, shirting, or drill, and the wealthier classes use finer bleached cotton textiles or silk.

BLEACHED COTTON TEXTILES.

In 1917, the last year for which detailed statistics are available, only 131 metric tons of bleached cotton piece goods were imported into Eritrea. Shirtings led with considerably more than half the total imports of white goods. The bulk of the imports came from Italy, with Aden next. The goods from Aden were practically all of Manchester origin.

COLORS, PRINTED, OR DYED COTTON GOODS.

Imports of colored, printed, or dyed cotton goods average a little more than 100 metric tons per year. Cotton prints of bright colors have the best demand. They are used largely by the Moslem women for dresses. The Christian natives seem to prefer the white or uncolored cottons for clothing. The important trade with northern Abyssinia takes very little of the colored, printed, or dyed cottons, and prospects are not, therefore, so promising for an important increase in the imports of these goods as in the case of grey cottons. Italy supplies the bulk of the imports of these colored goods, Aden follows with Manchester cottons, and India comes third.

COTTON SHAWLS AND YARNS.

The natives of the Eritrean plateau dress very much as do their Abyssinian cousins and, as stated in a preceding paragraph, an important article of their dress is a cotton shawl known as "chamma." These shawls come in 14 and 16 yard lengths usually, 26 to 31 inches wide, and the ordinary grades are practically a cotton sheeting or drill of coarser or softer weave, either bleached or unbleached, and with a red, black, or green stripe woven into the ends and sometimes into the sides of the piece. The 14 or 16 yard lengths are usually divided into quarters and the quarter piece worn about the shoulders. For the wealthier natives there is a finer imported product, or the much-prized hand-woven "chamma," which is produced locally from cotton grown in the country and mixed with imported yarn. This shawl often has varicolored silk threads woven into the borders and is very soft and fine. This garment of local production brings a much higher price than even the best imported article.

Cotton yarns are imported chiefly for use in connection with the home weaving of shawls and a few other textile articles. In 1917 there were imported 221.4 metric tons of grey or unbleached yarns, 12 tons of colored yarns, and 4.1 tons of bleached yarns. Italy supplied the bulk of these quantities. Imported yarns are usually used for the warp and homemade yarns for the weft in the weaving that the natives do in their homes. The grey yarns, which are imported in greatest quantity, are preferred in size No. 20 single, in 10-pound packages, although, owing to the exigencies of the war period, the native consumer has become accustomed to taking what he can get in the way of yarns.

KEROSENE AND GASOLINE.

Eritrea is becoming an important market for petroleum products and consumption increases yearly. Although the two principal towns in the colony, Massaua and Asmara, have electric light, all other districts depend upon kerosene for lighting purposes. Lanterns are universally carried at night, and as the natives improve their economic condition, a process always going on, they provide themselves with increased numbers of lamps and lanterns. There is also a growing use of street lights in the towns and settlements which require kerosene. More kerosene will be needed for stationary engines, the number of which is increasing. Of 1,156.2 metric tons of kerosene imported at Massaua in 1917, 778.7 tons came directly from the United States. The balance of the imports was credited to Italy and Aden, but represented considerable quantities of the American product.

The use of motor vehicles in Eritrea has to date been largely confined to the Government, which uses cars and trucks of a well-known Italian make. There is developing a desire among the many prosperous residents of the colony to own motor cars, and if it were not for the exchange situation a number of orders would have been placed for certain popular American makes. Eritrea has a splendid system of roads completed or under construction, and there is every incentive to the use of motor cars. When the great difference in exchange against the lira is reduced there will be sale for a number of motor cars and trucks. Gasoline imports will naturally increase over the 319.3 metric tons imported in 1917, of which quantity 257.2 tons came directly from the United States.

GENERAL HARDWARE.

General hardware is one of the leading items in the import trade of Eritrea. Builders' hardware, such as locks, bolts, staples, hinges, hasps, screws, nails, etc., make up a considerable share of the total imports. As natives are the best customers for these articles, the cheaper qualities best suit the market. Every native who can afford it has one or more wooden boxes or trunks, which are usually home-made, and for which he requires square hinges of the smaller sizes, nails, screws, hasps and staples, and pieces of metal fashioned in various styles for covering the corners and otherwise protecting and strengthening the joined edges of the box. To complete the box there must be a padlock, and this article has a good sale.

Four, six, and eight-inch iron triangle hinges are widely used for doors and windows in native houses, which may have no other iron or hardware used in their construction, except the hasps, staples, or bolts on the same doors and windows. Some builders' hardware of first-class quality is sold to Europeans and wealthier natives for the houses which they are constructing in increasing numbers.

There is in the Eritrean market a good deal of builders' hardware of American origin, purchased recently in place of the cheap German and Austrian goods that dominated the market before the war. American padlocks are almost exclusively sold at present. These have been imported largely through one of the leading firms in Eritrea which has an office in New York.

Hammers, saws, hand planes, and similar simple building tools are also in demand and are in the stock of all the larger general stores that carry hardware lines. There are no firms engaged exclusively in the hardware trade; the volume of business in the undeveloped territories of the Red Sea commercial district is not sufficient to warrant specializing in particular lines, and most of the principal importers do a general merchandising business, both retail and wholesale.

ENAMELED IRONWARE.

Enameled ironware is very generally used by both Europeans and natives in the territory covered by Eritrean trade. It is coming into more general use among the natives each year, and the market for this product is therefore one of substantial interest to American manufacturers, if they can compete in the matter of prices. There are at present no established prices which can be given for the guidance of American trade, as the war greatly interfered with old sources of supply, principally Austria, and has developed new sources, principally Japan; and the ware coming on the market has been priced according to the distributor's idea of how much he could get rather than for the purpose of meeting competition. Competitive conditions are now returning and will soon result in the establishing of standard prices that will be of value in gauging the possibilities of the market. The Aden consulate will, upon request, keep interested United States manufacturers in touch with such developments.

The best enameled ironware sold to any extent in this market has been the Austrian. Neither the English nor German lines, which competed with the Austrian, were equal to it in finish, although they were probably equal in wearing quality. Japanese ware succeeded the Austrian and German, but it has neither the finish nor the wearing quality of the Austrian ware. The native judges a great deal by appearance, and the gloss and finish of enameled ware offered in this market is therefore an important consideration.

The most popular articles of enameled ware are teakettles of 1 quart to 2 gallons capacity; saucepans 8 to 20 inches wide and 4 to 6 inches deep; kettles with and without lids and of 2 to 8 quarts capacity; pint and quart cups with one handle; small bowls with or without foot; plates; and spoons. Jugs, pitchers, and various other articles are also sold, but the demand is not so great as for the articles named. In colors blue seems to be most popular, but white and

green also meet with favor. The more vivid the coloring the better pleased is the native purchaser.

Sizes are indicated in the metric system for the Eritrean and Abyssinian market, but owing to the indifference of the average native purchaser as to exact measures he would probably take with equal readiness either a quart or a liter size cup, whichever looked bigger to him.

Trade-marks are important, as the Austrian ware, which has been the standard, was identified by such marks as a gun, a fez, a bugle, a triangle, a star, etc., distinguishing various grades and qualities. The picture or the mark appeals to the native more than an inscription, which he would probably not be able to read. The Eritrean customs statistics do not segregate enameled ironware imports, and it is not therefore possible to give figures as to the quantities imported, but it is not improbable that the market will take under present conditions as much as \$100,000 worth per annum.

IRON AND STEEL SHEETS, BARS, AND RODS.

Corrugated and galvanized iron sheets are most widely used for roofing material in the construction of strong buildings in the colony of Eritrea, and in some instances are used for the sides of buildings of simple architecture that are intended for other than residence purposes. The use of galvanized sheets is increasing each year, and the imports during 1917 amounted to nearly 300 metric tons. Practically the entire amount was of American origin. Supplies available at present are not sufficient to meet the demand for construction work delayed by the war.

In 1917 the imports of iron and steel bars amounted to 86.1 metric tons. There is a substantial and steady demand for iron and steel bars or rods, which serve a variety of uses, the most important of which is for the work of native blacksmiths who make lance heads, plow points, pointed sheaths for wooden forks used in cultivation, horseshoes, knives, etc. Old files are in demand for use in making knives and other small articles where hard and well-tempered steel is needed. Iron and steel bars are also in demand for the increasing number of small machine shops connected with the railroad, mining, and other industries of the colony.

HURRICANE LANTERNS.

The trade in lanterns has a substantial basis, because every native who can afford it owns a lantern for his own use and one or more for the use of other members of his family. The hurricane lantern of a well-known American make is in great favor in Eritrea and in all parts of this district. Only lanterns of American make were noted on sale in the various retail shops inspected. In the settlements a lantern is usually carried by everyone who goes out at night.

In consigning lanterns to the Eritrean market the exporter should arrange also to supply the glass chimneys made for use in them. The native dealer has during the war been unable to secure chimneys from America and has purchased Japanese chimneys made to fit the American lantern. For some reason these chimneys do not last as well as the American-made chimney, and the reputation

of the lantern has suffered somewhat because the native does not understand that he is getting other than the proper chimney, and as the chimney he does get is easily broken he concludes that the quality of a lantern which he has always found satisfactory has deteriorated.

MISCELLANEOUS HARDWARE ITEMS.

The various hardware items already discussed are those which hold most interest for American commerce. Other items in which the trade is less important are cutlery, such as large clasp knives with 5 or 6 inch blades and a ring by which the knife can be fastened to the owner's belt; galvanized iron buckets and pans; cheap shovels and spades; axes and hatchets; and wire of various sorts. The primary consideration in articles of these classes is that they be sufficiently cheap to meet the somewhat limited purchasing power of the native customer, which was formerly catered to by German and Austrian manufacturers.

SEWING MACHINES.

Sewing machines at moderate prices, ranging from \$15 to \$30, meet with an increasing demand as the outlying native settlements are brought into closer touch with the main trading centers. One American sewing machine with an international reputation is found in the Eritrean market, but it is a little too expensive to meet with the greatest success. Some cheaper American sewing machines have been imported at Aden, and seem to meet the demands of the native trade as well as did the prewar German machine which sold widely in Red Sea markets. None of these cheaper American machines was found in Eritrean shops.

FACTORY AND OTHER INDUSTRIAL MACHINERY.

Agricultural machinery is not yet established as a regular trade item. The colonial Government is, however, making all possible efforts to develop the agricultural resources of the colony and an increasing interest is taken in the possibilities of growing grain according to modern ideas, in cotton planting, and in sisal hemp growing. There will be sale for the simpler forms of cultivating and planting machinery and for a few thrashing machines. The agricultural possibilities of the colony are not, however, great enough to develop a really important market for agricultural machinery. Much of the land is desert, semidesert, or too rocky and broken for agriculture. The limited amount of cultivable land needs irrigation in most places.

There are possibilities for the sale of a limited amount of flour-milling machinery for mills of small capacity. Wheat, barley, millet, and durra are the principal grains milled.

The need for electrical machinery in connection with the development of water power at Asmara has been mentioned in previous pages of this report, but there is naturally a definite desire on the part of the colonial Government to secure equipment of Italian manufacture if possible.

Road-building machinery would be useful in the comparatively extensive system of road construction now under way in the colony,

but as the Government can employ a good supply of cheap native labor, including soldiers and prisoners, the need for any considerable amount of labor-saving construction machinery has not been sufficiently apparent to bring about its purchase from limited funds that are badly needed in other fields of Government activity. There has so far been no development of private road building.

There is one meat-packing plant at Asmara, which is at present fully equipped with machinery, including some American machines for the making of tin cans. This plant is expanding and will in the near future be replacing some of its older and less useful mechanical equipment.

The button factory at Keren is also expanding and will be needing new machinery from time to time. In connection with this factory the owners intend to install machinery for the extraction of oil from the oil-bearing seeds and grains that grow in Eritrea and the adjacent Abyssinian districts.

Ground has been broken for the construction of fish-packing plants at Massaua and Assab, but the initial lot of machinery for these two plants has already been arranged for.

It will thus be seen that there are some opportunities for the sale of factory machinery in Eritrea, but such sales would depend largely upon the presence in the colony of an energetic representative of the machinery manufacturer or exporter who could get in touch with and follow up prospects.

The sale of well-boring machinery is a possibility, as the colonial Government recognizes that one of the first steps in the economic development of the colony is the tapping of possible underground water supplies. American machinery will probably be considered in this connection, because of its well-known superiority, and the American consular representative in the Red Sea district will keep in touch with the situation for advance information useful to American manufacturers of such machinery.

When funds permit the colonial Government will probably purchase three or four new traveling cranes to replace the old ones now in use on the quay at Massaua. Those at present in use are of 3-ton capacity, of English make, and are operated by steam. They are not highly efficient.

Pumping machinery of the smaller and simpler models will be needed in connection with the development of irrigation projects. In many of the river valleys the stream bed is dry for several months of the year and shallow wells are dug to reach the water, which is always found a few feet below, and which is used to irrigate fertile tracts of land found at various places throughout the length of most of the valleys. Digging these wells with pick and shovel and drawing the water by buckets or by hand pumps is not satisfactory, but that is the practice at present followed.

Mining machinery is not likely to be in demand in the near future, as there are now in the colony at least three sets of machinery at as many different gold mines which are closed down because of insufficient yield of metal to warrant their continued operation.

Wood-working machinery is not likely to have an important demand in a country like Eritrea, which has few forests, and those few yielding a small amount of lumber. The Government is encouraging the development of furniture and cabinet making from the wild

olive wood, which is admirably suited for the work, but the possibilities are comparatively limited.

A few fiber-stripping machines will be required by the development of the sisal hemp industry, which at present appears to be permanently established.

Although the immediate possibilities for factory or other industrial machinery in Eritrea are not important, they are worth the consideration of a firm which has other lines to introduce. There is a progressive spirit in the colony that is bound to lead to further industrial development and to the creating of demands for the lines of machinery indicated in the foregoing paragraphs.

LAUNDRY AND TOILET SOAPS.

Common or laundry soap is an important article of trade in the colony. Being a commodity universally used, there is an increasingly important consumption. The imports of common soap in 1917 amounted to 457.8 metric tons, of which amount 438 tons are credited to Italy in the import returns, 7.5 tons to France, and the balance to Aden and Egypt. It is believed that an appreciable share of the amount credited to Italy consisted of French soap, which has long been the favorite laundry soap in the Red Sea district, and which is demanded by the native consumer if he thinks he can get it.

The French soap, which is the standard in this district, comes in square blocks weighing four to the kilo (2.2046 pounds). It is of a light yellow color when reasonably fresh, and quite bright and attractive in appearance, thus appealing to the native's idea of getting something pretty as well as useful for his money. These blocks measure approximately $2\frac{1}{4}$ by $2\frac{1}{4}$ inches, are hard, and wear well in use. The competing English and American soaps in the market have imitated the size and weight of the French soap, but do not seem to be as hard, and they soften and wear away too quickly in the hands of the native user. Samples of the most popular laundry soaps sold in Eritrea and all the Red Sea district can be procured through the American consulate at Aden by interested manufacturers.

Soap made for this trade, in addition to following the established shape, size, and weight, should bear a distinctive trade-mark, preferably a fruit, a flower, or a tree, as it attracts the native and distinguishes one brand from another. The best selling French soap has an apple for a trade-mark. There should be nothing in the mark to suggest that the soap contains animal fat or grease, as the Mohammedan natives, who are in the majority in this district, are prejudiced against soaps made from other than vegetable oils or fats, although they doubtless unknowingly use much that contains animal grease. American soaps can, it is believed, be made to compete in the Eritrean trade.

Only 10.6 tons of toilet soaps, classified as such, were imported for the Eritrean market in 1917, and 9.5 tons of this amount were credited to Egypt in the import returns. Highly perfumed toilet soap sells best.

OTHER MANUFACTURED GOODS.

The manufactured goods discussed under separate headings in the foregoing paragraphs are those in which American manufacturers or exporters would find the most profitable interest. There are, how-

ever, a number of articles in which the trade is still comparatively small that may eventually be of interest to American trade, and these are referred to in the following paragraphs. (The import figures given are for the calendar year 1917, the latest year for which detailed import statistics are available.)

Imports of table wines in bulk amounted to 182,797 wine gallons, and in addition there were 263,475 bottles of wine. Beer imports amounted to 10,000 dozen bottles. These beverages, largely for the use of the Italian population of the colony, constitute a noticeable percentage of the value of the total annual imports.

Confectionery of various sorts was imported in the amount of 38.7 tons, mainly from Italy and Egypt.

Tobacco in an unmanufactured state came mainly from India in the amount of 167.2 metric tons. This tobacco is used largely in the local cigarette industry, which is increasing in importance, and for export to the Arabian Red Sea coast.

Napthaline for use in packing hides and skins came mainly from the United States, and the amount imported was 17.6 metric tons. There is an increasing consumption of this commodity in the hide and skin business.

Candles are imported from Italy, but the bulk of the supply is evidently not of Italian manufacture, as the local shops offer for sale candles manufactured in Burma, England, France, and Holland. Imports of stearin candles amount to 27.5 metric tons, and of paraffin candles to 23.5 metric tons. Judging from the experience of Aden importers, candles of American manufacture are too costly to compete with the Burmese candle, which is the best seller in the Red Sea commercial district.

Door and window frames were imported from the United States in 1917 in the amount of 2.8 tons. These frames were used in building construction at Asmara, and it is probable that there will be an increasing demand for this commodity from the United States.

Letter paper of medium and cheap quality sells well, and Italy supplied 4.8 tons to the Eritrean market in 1917. Cheap American writing papers could compete in this market.

Shoes are becoming more important in the trade of the colony. In 1917 there were imported 7,873 pairs of leather shoes from Italy and Egypt, but not all of Italian or Egyptian manufacture. Cloth shoes with either leather or rubber soles were imported in the amount of 1,916 pairs. Italy and Egypt are also credited with supplying the shoes of this grade. Heavy American shoes of medium prices, in tan shades, would find favor in this market. A few have been sold.

Watches in nickel or similar base-metal cases were imported to the number of 1,804 from Italy. The sale of these articles is increasing yearly as the natives become better able to buy more than the absolute necessities of life.

Automobiles of Italian or French make were imported to the number of 29. Five motor cycles were also imported. The Eritrean market for motor cars and cycles is quite promising, owing to the extent of good roads completed or under construction by the colonial Government. Tires for motor cars and cycles were imported from Italy in the amount of 9 metric tons.

Fruits and vegetables in tin cans were imported in the quantity of 66.9 metric tons. Imports of these commodities are practically

all credited to Italy, but the provision shops in Eritrea offer for sale more American than any other canned fruits.

Milk, condensed, is imported mainly from Italy. In 1917 the imports amounted to 23.7 tons without sugar and to 6.8 tons with sugar. An attempt is being made to develop a local dairying industry, and it does not seem probable that the imports of condensed milk will increase greatly, although the market will always take an appreciable amount.

Felt hats to the number of 6,923 were imported from Italy. The natives of the plateau, both men and women, wear felt hats, as do their Abyssinian neighbors, and there is an established trade in them. A popular quality of felt hat for the native trade retails in Eritrea for the equivalent of \$1.50, United States currency.

Silk thread in the amount of 521 kilos was imported from India and the Sudan, or from India via Aden. There is a substantial demand for silk thread on the part of the natives, who use it to a considerable extent in their home-weaving industry.

Owing to the abnormal exchange situation, local values for imported manufactured goods are not accurate for purposes of comparison, and quantities only have been given. For the same reason it is not practicable to give an adequate idea of retail prices at this time, and quotations are not generally given for fear they would be misleading. More detailed information on this subject may be obtained from the Aden consulate by interested inquirers.

PRODUCTS OF ERITREAN MANUFACTURE.

The manufactured products of Eritrea are greater in number and variety than those of any other political division of the Red Sea commercial district. Canned meats, beef extract, fish, salt, vegetable-ivory buttons, fiber ropes, and coarse mattings are the principal industrial products of Eritrea. All of these, except the fiber ropes and coarse mattings, have been discussed in detail in foregoing pages of this report. These two products are the output of home industries of the natives, who use palm and other vegetable fibers in their manufacture. The ropes find use largely in the rigging of native sailing dhows and the mattings are used for baling skins and other natural products of the district. The ropes and mattings are exported to other Red Sea ports and places, but usually not to foreign markets. The Assab district leads in these two products.

BULK FOODSTUFFS.

Eritrean agriculture does not produce enough food for the use of the inhabitants of the colony, and sugar, olive oil, grains, and flour are imported in comparatively important quantities. Durra is the leading grain and 6,304.1 metric tons were imported in 1917. Wheat flour was imported in the quantity of 1,228.2 tons. The most important amounts of durra come from the Arabian Red Sea Province of Asir and from the Sudan. Flour comes in greatest quantity from India. Sugar imports in 1917 from Aden, Egypt, Italy, and India amounted to 415.5 tons. The colonial Government is devoting much attention to making the colony self-supporting in grain production at least, but it will likely be some years before that object is attained.

IMPORT TRADE.

In normal years two-thirds of the total trade of Eritrea consists of imports. This gives an adverse trade balance, largely due to the fact that the colony must import large quantities of foodstuffs to make up the deficit in local production and practically all manufactured goods consumed. There are two ports of entry, Massaua and Assab, but the former is by far the most important. The entire trade of the colony may be said to pass through Massaua. Imports go from Massaua over the railroad to Asmara for distribution, from which place radiate several roads suitable for wheeled traffic and caravan routes reaching to inland trading centers, extending on the west to the Sudan frontier and on the south to the Abyssinian frontier. Imports into Eritrea over these two frontiers are collected at Asmara. They consist largely of hides, skins, and other natural products received in exchange for manufactured goods or foodstuffs, which are exported from the country via Massaua.

INLAND TRADE ROUTES.

From Asmara the distributing center for the colony's import trade and the collecting center for its export trade, the principal trade route extends south by east along the plateau via Saganieti, Adi Caieh, Senafe, and Fort Dabormida on the frontier into Abyssinia, and then south to the important Abyssinian trading centers at Macalle and Dessie. From Asmara to the frontier the road is about 170 miles long and is suitable for wheeled traffic its entire length. Beyond the frontier there exist only caravan routes. From Asmara a second route runs almost due south via Adi Ugri and Adi Quala to Adua in Abyssinia. Adua is the trading center for a comparatively large and rich district in Abyssinia. From Asmara to Adi Quala, a distance of about 35 miles, this route is suitable for wheeled traffic. Beyond Adi Quala it becomes a caravan route.

From Asmara northeast along the plateau to Keren, and thence westward via Agordat and Sabderat on the frontier is another important trade route, which runs to Kassala in the Sudan. From Asmara to Agordat, a distance of about 115 miles, the road is suitable for wheeled traffic, beyond which point and on to the Sudan frontier it becomes a caravan route. Another caravan route branches off from Agordat to the south and reaches the Abyssinian frontier via Barentu. From Barentu the important trading center of Gondar, just north of Lake Tsana in Abyssinia, is reached. Gondar has very important commercial possibilities, but development of trade with Eritrea is slow because the entire distance to Agordat is covered only by caravan.

The Eritrean Government has in mind the almost inestimable importance to the future commercial development of the colony of a railroad over the Agordat-Barentu-Gondar route, but instead of continuing due south from Barentu as does the caravan route the railroad will go by way of Elaghim in the southwestern corner of the colony. This digression is for the purpose of avoiding the more mountainous country of the plateau, through which railroad building would be more difficult, and to reach a much greater area of highly productive territory, including large areas suitable for cotton cultivation in the Atbara or Black Nile district.

The three trade routes into Abyssinia are the most important and have the greatest promise for future development. The route into Kassala Province of the Sudan will never become so important, because the highly organized plans for commercial development of the Sudan will prevent the diversion of much trade into Eritrea.

One more land trade route of coming importance is that which goes inland from Assab to the Abyssinian trading center of Dessie, which is also reached by the longer northern route from Asmara to Adi Caieh to Macalle. The distance from Assab to Dessie is less than 300 miles, and the route has been studied and surveyed in part for the construction of a railway. An obstacle to the construction of the railroad is that it would run a considerable distance across the comparatively unproductive Dunkali Desert before the productive Abyssinian highlands were reached. However, the construction of such a railroad is still a live matter, and probably depends as much upon political as on commercial eventualities. For the more complete development of the commercial possibilities of north central Abyssinia, upon which largely depends the future commercial importance of Eritrea, the eventual construction of this railroad may be considered a necessity.

MARITIME IMPORT FIGURES.

The colonial Government has an excellent system for keeping customs statistics, with the exception that it is usually two years behind in the coordination and publication of the results of its work. The following table has been prepared to show the imports by sea at Massaua, the gateway to Eritrea and northern Abyssinia. For the purposes of a more accurate comparison of the imports for the several years only quantities are given.

Articles.	1914	1916	1917	1918 ^a
Automobiles.....number..	3	1	29	.....
Candles.....kilos..	35,700	34,300	51,000	.....
Coal.....do....	12,117,000	1,281,000	5,487,600	3,400,000
Coffee.....do....	227,000	457,200	856,500	.....
Cotton goods:				
Unbleached piece goods.....do....	2,108,800	1,826,800	1,953,800	1,326,000
Other piece goods.....do....	382,600	363,100	379,900	.....
Yarn.....do....	226,900	663,700	237,500	505,000
Garments.....do....	42,800	4,400	12,600	.....
Dates.....do....	533,600	685,500	503,800	.....
Flour.....do....	2,302,300	1,415,300	1,288,200	.....
Gasoline.....do....	.....	.....	319,300	.....
Grains.....do....	32,016,600	26,602,100	7,481,200	9,970,000
Gum arabic.....do....	.....	13,900	444,400	.....
Hats and caps.....number..	3,769	2,884	36,218	.....
Ironwork (hardware).....kilos..	2,079,900	581,400	761,700	.....
Kerosene.....do....	1,114,100	488,160	1,156,200	.....
Oil:				
Olive.....do....	100,400	116,500	56,400	.....
Lubricating.....do....	125,400	94,800	69,500	.....
Other mineral.....do....	580,500	191,000	132,400	644,000
Paper products.....do....	121,600	72,200	150,700	.....
Railroad iron.....do....	.....	22,200	1,370,000	.....
Skins and hides.....do....	.....	.....	253,000	.....
Soap.....do....	243,600	483,700	467,800	.....
Spirits, sweetened.....liters..	279,700	98,400	88,300	.....
Sugar.....kilos..	1,451,700	1,098,000	415,500	.....
Tobacco, raw.....do....	177,300	137,100	167,200	.....
Wines.....liters..	1,597,300	906,200	1,132,100	.....
Wood and timber.....kilos..	1,982,200	803,800	543,800	.....
Other merchandise.....do....	7,044,200	6,470,700	3,690,000	.....
Total of merchandise measured by weight...kilos..	65,014,200	43,906,860	28,250,000	38,073,000

^a Absence of figures does not mean that there were no imports of the articles specified, but that figures could not be obtained.

The total value of imports for 1914 is given in the published statistics as 29,434,123 lire; for 1916 as 21,614,504 lire; for 1917 as 50,089,936 lire; and for 1918 as 106,270,000 lire. The Italian lira has a normal exchange value of \$0.193 in United States currency, but this exchange value has, during the years covered by the import statistics herein discussed, decreased considerably. This and the fact that commodity values have also largely increased makes it difficult to obtain accurate comparisons by considering values alone.

LAND TRADE IMPORT FIGURES.

The calendar year 1918 is the first year for which the colonial Government has published separate figures for the land trade of Eritrea. The figures for 1919 have not yet been completed. Imports by land consist principally of natural products from Abyssinia and the Sudan. The following statement shows the value and origin of the imports (mainly hides and skins) over the more important land routes into Eritrea during 1918:

	Lire.
Abyssinia -----	22, 020, 299
Biru Sultanate -----	86, 098
French Somaliland -----	57, 759
Sudan (Kassala) -----	200, 134
Total -----	22, 364, 290

The above figures do not include the value of the considerable amount of live stock and some other products that cross the frontier at places where the official supervision is less effective than at the places where the principal trade routes cross. In order to encourage Abyssinian trade, no customs duties are levied at the frontier.

Of the total trade with Abyssinia more than one-third is via Adi Caieh. Adi Ugri comes next, with an amount equal to about 75 per cent of that via Adi Caieh. Abyssinian caravans crossing the frontier in 1918 for the Adi Caieh market numbered 352 with a total of 16,856 mules. The most important products brought in by this route are hides and skins, which in 1918 amounted to 989.12 metric tons. Oil-bearing seeds, with 892.95 metric tons, were the next most important item, and there were 248 metric tons of cereals. Via Adi Ugri 676.6 metric tons of Abyssinian skins and hides and 27.45 tons of oil-bearing seeds were imported. The principal import from Abyssinia via Barentu was honey, of which there were 5.57 metric tons during 1918.

From the Sudan (Kassala) the principal imports in 1918 were cereals in the amount of 222.45 metric tons. One and a half tons of honey came to Agordat from the Sudan.

The Abyssinian products sent to Assab consisted mainly of 37.39 metric tons of hides and 48.15 tons of skins.

ORIGIN OF ERITREAN IMPORTS.

The bulk of the manufactured goods imported into Eritrea originate in Italy, India, Japan, and the United States. A fair share of the values credited to Aden and India originate in Japan and the

United States, but are imported via Aden and India and are thus credited to those two places. The following table compares the values, in lire, of the total imports by sea, according to countries of shipment in the years 1914, 1916, and 1917, detailed figures for 1918 not being available:

Countries.	1914	1916	1917
	<i>Lire.</i>	<i>Lire.</i>	<i>Lire.</i>
Aden.....	2,021,231	256,063	10,174,936
Arabian Red Sea coast.....	1,626,823	1,122,218	4,009,678
Austria.....	1,940,954		
Brazil.....	168,276	421,984	48,515
Egypt.....	565,069	511,014	1,472,726
France.....	486,530	50,348	36,423
French Somaliland.....		265,325	2,826,261
Germany.....	686,956		
Great Britain.....	1,454,602	465,409	1,746,858
India.....	6,218,294	3,379,210	2,833,863
Italy.....	13,459,512	11,396,755	22,896,162
Japan.....	1,500	392,817	1,202
Sudan.....		3,003,276	2,367,945
United States.....	220,086	259,828	910,352
All other countries.....	534,290	90,257	765,015
Total.....	29,434,123	21,614,504	50,089,936

The comparatively heavy imports from Arabian Red Sea ports consist mainly of grains for local consumption, and of hides, skins, and coffee for export from Massaua, which has shipping connections superior to any port in the district, except Port Sudan and Aden. Owing to the great increase of commodity values during the period 1914 to 1917 and to the falling exchange value of the lira, the foregoing table is more valuable for purposes of comparison than for indicating the volume of trade with each country named.

EXPORT TRADE.

The value of Eritrean export trade is normally about one-half as great as the value of the import trade. There is some export, by land routes into Abyssinia and the Sudan, of manufactured goods imported through Massaua, but the bulk of the colony's export trade is made up of hides, skins, coffee, salt, potash, vegetable ivory, and other natural products which are shipped from Massaua to foreign markets. Exports from the minor port of Assab are comparatively small, and a good share of them go in coasting vessels to Massaua for transshipment.

The following table compares by quantities the exports from Massaua for 1914, 1916, 1917, and 1918. Values are also given in the customs returns, but owing to exchange fluctuations and the abnormal rise in the values of commodities for the period covered, they do not correctly indicate the volume of the colony's trade and, therefore, are not given.

Articles.	1914	1916	1917	1918 ^a
	<i>Kilos.</i>	<i>Kilos.</i>	<i>Kilos.</i>	<i>Kilos.</i>
Beeswax.....	56,600	59,300	53,000	.....
Coffee.....	26,500	8,900	338,800	.....
Dom nuts, raw.....	2,824,600	2,063,900	2,493,600	} 3,645,000
Dom nuts, worked.....	387,800	570,100	409,700	
Ghi.....	153,600	42,700	150,600	.....
Gums.....	219,300	100,900	500,000	.....
Hides.....	1,679,400	1,542,300	1,747,200	.....
Hides and skins.....	.....	.....	.....	9,355,000
Linseed.....	181,500	8,400	222,000	.....
Meat, canned.....	87,600	496,500	1,027,500	.....
Pearls.....	4	13	20	.....
Salt.....	42,900,000	40,303,400	32,176,000	49,070,000
Skins.....	468,400	512,100	310,800	.....
Shells, mother of pearl.....	347,300	749,400	382,100	.....
Shells, trocas.....	501,800	961,600	250,600	.....
Other merchandise.....	642,400	926,700	837,100	.....
Total.....	50,476,804	48,346,213	40,899,020	70,176,000

^a Complete figures for 1918 had not been prepared for publication by the Eritrean Government when this report was written and only figures for a few separate items and the total were obtainable.

The total value of Eritrean exports by sea for 1914 is given in the published statistics as 13,113,292 lire; for 1916 as 11,866,476 lire; for 1917 as 26,158,721 lire; and for 1918 as 79,220,000 lire. The Italian lira has a normal exchange value of \$0.193 in United States currency, but this exchange value has during the period covered by the trade statistics herein discussed, decreased considerably. This and the fact that commodity values have also largely increased make it difficult to obtain accurate comparisons by considering values alone, and for that reason quantities only have been shown in the foregoing table.

LAND TRADE EXPORT FIGURES.

Beginning with the year 1918 the colonial Government has kept separate statistics of exports over the various land routes into neighboring territories. These exports consist mainly of cotton piece goods and yarn (more than 80 per cent of the total) and other manufactures imported from abroad via the port of Massaua.

The following statement gives the value and destination of exports by land from Eritrea during the calendar year 1918:

	<i>Lire.</i>
Abyssinia.....	12,500,224
Biru Sultanate.....	96,726
French Somaliland.....	32,259
Sudan (Kassala).....	157,575
Total.....	12,786,784

The most important of the land export routes is that via Adi Caieh into Abyssinia. Exports by this route in 1918 consisted mainly of 261.3 metric tons of cotton piece goods and yarn valued at 3,987,688 lire, about 37 metric tons of hardware, and 821 cases of alcoholic liquors. During this year 257 caravans, with 7,192 mules, passed from Adi Caieh into Abyssinia. Via Adi Ugri into Abyssinia the exports consisted chiefly of 77.77 metric tons of cotton piece goods and yarn valued at 1,731,372 lire. Exports to Abyssinia via Assab and Barentu were much smaller.

DESTINATION OF EXPORTS BY SEA FROM ERITREA.

Most of the export firms doing business in Eritrea are Italian, and as the principal foreign shipping connections at Massaua are by Italian steamers, it is natural that the bulk of the colony's exports should go to Italy. During 1919, for which year detailed figures are not available, it is evident that comparative heavy exports of hides, skins, and mother-of-pearl shells from Eritrea went to the American market.

The following table compares the values of the total exports by sea to each country participating to any important extent in Eritrean trade during 1914, 1916, and 1917:

Countries.	1914	1916	1917
	<i>Lire.</i>	<i>Lire.</i>	<i>Lire.</i>
Aden.....	2,334,035	1,623,183	1,478,443
Arabian Red Sea coast.....	2,552,960	171,301	1,113,496
Austria.....	270,982		
Egypt.....	37,989	138,260	2,318,950
Germany.....	948,334		
Great Britain.....	172,777	556,678	552,538
India.....	977,992	1,289,997	2,346,055
Italy.....	4,952,403	7,278,439	15,707,407
Sudan.....	97,995	207,757	257,285
United States.....	78,877	554,202	1,182,320
France.....	540,369	29,766	861,900
All other countries.....	148,579	16,893	340,327
Total.....	13,113,292	11,866,476	26,158,721

As regards the principal exports of the colony, Italy leads as the destination of potash, hides, dom-palm nuts and buttons, canned meats, and mother-of-pearl shells; the United States leads as the destination of goat and sheep skins, and takes a large share of the gum arabic and mother-of-pearl shells; Egypt leads as the destination of the coffee exported; and India leads as the destination of the exports of salt and pearls. Exports to the Arabian Red Sea coast consist mainly of unbleached cotton piece goods, yarn, and raw tobacco.

FACTORS INFLUENCING FOREIGN TRADE.

The future commercial prosperity of Eritrea depends very much upon the continued development of the possibilities of its excellent location as a market through which the people of the potentially rich districts of northern Abyssinia and of the neighboring Arabian Red Sea coast may do their trading.

ADVANTAGES OF FREE TRADE ARE LACKING.

The commercial history of Aden has demonstrated the very favorable influence which free trade has on a market center depending for its commercial prosperity upon entrepôt trade. Eritrea has not free trade, and Massaua has therefore not yet obtained as full benefit of the possibilities for a flourishing entrepôt trade as should be the case, considering its strategic location and the improvements that have been made in the port to attract shipping. Customs warehouses for the storage of goods in transit, without payment of duty, have

been built and have attracted more trade from the Arabian Red Sea coast. However, the facts that there is a good deal of customs red tape, and that the native knows there is a tariff which may or may not apply to his own trading operations, still keep many trading dhows away from Massaua and send them the greater distance to the free port of Aden, or to the port of Jibuti, where tariff charges are at least apparently less.

A goodly share of the merchandise imported at Massaua, upon which duty is paid, eventually goes overland to the Abyssinian market and pays another duty upon entering that country. If entry at Massaua were nominally free, merchandise could be taken into Abyssinia via that route and more favorably compete with merchandise entering by the Sudan, French Somaliland, and other trade routes. On account of its proximity to the rich districts of northern Abyssinia and because of the facilities afforded for overland transportation of goods, Eritrea will continue to command an increasing amount of trade with Abyssinia; but there seems no doubt that if Massaua were nominally a free port there would be a more rapid and eventually a much greater development of general Abyssinian and Arabian coast trade through the colony.

TARIFF IN FAVOR OF ITALIAN GOODS.

Another important factor of seeming prejudice to the development of Eritrean foreign trade is the preferential tariff in favor of Italian goods. This is perhaps a natural provision on the part of the colonial Government to favor the development of Italian commerce, but the principle that competition is the life of trade seems to have been overlooked.

It is assumed that the object of the Government is to make Eritrea an important unit in the economic development of Red Sea commerce, as the colony alone has neither the area nor the resources to become an important commercial territory within itself. Aden, Jibuti, and the Sudan, which are important factors in Abyssinian trade and necessarily rivals of Eritrea, do not discriminate against goods of a nationality other than British or French. The import duty payable at Massaua is 1 per cent on all Italian goods and 8, 10, and 15 per cent on goods of other origin. The Abyssinian, who is the object of a good share of the trade efforts of the three European nations concerned in Red Sea commerce, notes this difference in methods and is likely to be influenced in favor of the two trading nations which do not yet discriminate.

The Eritrean Government derives a considerable revenue from its tariff, but forcing goods of other than Italian origin to pay a higher duty can not add importantly to the revenue, and it discourages the establishing of commercial houses of other than Italian nationality, which would add greatly to the commercial development of the colony and incidentally would add to its revenue in the increased taxes and payments other than customs duties that would be realized. The Government is Italian; the atmosphere and living customs of the colony are Italian; the laws of the colony are Italian; consumers of the colony and of the neighboring territories under its commercial influence know and are accustomed to Italian goods; and as the

foreign shipping connections of the colony are almost exclusively Italian, it would seem that Italian trade would have all reasonable advantage without the preferential tariff. There is also the psychological circumstance that the efforts made by Italian firms in behalf of Italian goods are not likely to be so keen and energetic as they would be if these firms were brought to realize that their hold on the market was not bulwarked by the tariff. The increased fighting spirit which would enter into their efforts if left to stand largely on their merits would undoubtedly add materially to a more rapid extension of their own and other trade.

FREE TRADE WOULD HELP MASSAUA.

Closer trading relations with the neighboring Arabian Sea coast, particularly with the grain and coffee exporting ports of Asir Province, are essential to full prosperity for Eritrean commerce. Traders from this coast have hides, skins, coffee, grains, senna, and mother-of-pearl shells to send to world export markets, and the custom of years has been to take their produce to Aden because there only were foreign shipping connections available with any reasonable frequency. Now that both Massaua and Jibuti, competitors of Aden in the Red Sea trade, have acquired reasonably frequent foreign shipping connections, there is nothing in the way of the diversion of an important share of Arabian Red Sea coast trade to either Massaua or Jibuti, except that Aden offers entirely free trade and the two former ports do not.

Massaua is much more advantageously located in the matter of distance than either Aden or Jibuti, which are some hundreds of miles south. An increasing share of Arabian Red Sea coast trade is being diverted to Massaua at the expense of Aden, but the diversion would become more rapid and more important if nominal free trade for both imports and exports were made an inducement.

ADVANTAGES OF MASSAUA AS A PORT.

The establishing of free trade would necessarily mean an increase in the present very moderate shipping and other port dues at Massaua, to provide a revenue for the upkeep of the prevailing good port facilities. Fairly heavy port charges at Aden have not lessened its attraction as a nominally free port, and such port charges provide entirely for the upkeep of the harbor works, upon which it is understood the Government spends little, if anything, in addition to the revenue derived from shipping.

Except Port Sudan and Massaua, there is no Red Sea or Gulf of Aden port at which ships may go alongside a pier or quay. At all other ports ships lie out in the harbor and handle cargo by means of lighters, which method does very well in fine weather, but it is not so favorable in the seasons of strong winds. When there are several ships in Massaua harbor at one time it is necessary for some of them to lie out in the harbor and work cargo with lighters, but as the harbor is small and very well protected the blowing of strong winds outside does not materially disturb the harbor waters, and ships can load or discharge from both sides. At Aden and Jibuti the harbors are well surrounded by land, but they are much larger,

and strong winds sometimes turn up a noticeably choppy sea, which at Jibuti occasionally stops altogether the loading or discharging of cargo. At Aden work can always proceed, but not with the same facility and ease at all times. When cargo is handled by Red Sea port lightering methods the extra wear and tear on the packages is an important consideration.

In the matter of coal supplies Aden is, of course, much superior to Massaua, although the latter place could very well increase its supplies of coal. Its facilities for coaling such ships as call are practically equal to those at Aden. In the matter of loading salt cargo, which is an important export from both Aden and Massaua, the latter port has much superior facilities, and can save many days in loading a salt cargo by the use of an electrically operated conveyor system running from the shore to the ship. At Aden ships can not approach the salt works pier and the salt has to be towed out in lighters. Salt is cheap cargo and is often taken by ships which arrive with a full cargo to discharge and must leave port either in ballast or with a cargo of salt. Coal ships are usually in that class, and as Massaua offers plenty of salt cargo that can be loaded with a saving of many days over the time required at Aden it is quite possible to build up coal supplies at the former port to compete with the supplies at Aden. Furthermore, India is the principal salt market, and ships by proceeding there can usually find a cargo after discharging their salt, whereas, if it were not for the salt they would often proceed from Massaua, Aden, or other Red Sea ports to India in ballast.

Massaua also offers a much more plentiful and cheaper water supply than is available at Aden. At Aden ships pay as much as 4.5 rupees (equal to about \$2 in July, 1920) per 100 gallons for distilled water and the quantity that will be supplied is often limited. At Massaua ships can usually have all the fresh water they want at less than 10 cents United States currency per ton. Ice at Massaua costs ships 500 lire per ton and at Aden approximately 50 per cent more.

PORT AND OTHER SHIPPING CHARGES AT MASSAUA.

Harbor dues at Massaua are only one-tenth of a lira per registered ton; the pilot fee is 25 lire; the quarantine fee is 10 lire. Landing charges collected by the port authorities amount to one-fourth of a lira per package, and one-fifth of a lira per 100 kilos is charged for wharfage. Customs warehouse charges are one-tenth of a lira per package for any period up to one year. Stevedoring charges for loading or discharging cargo are three-fifths of a lira per 100 kilos. Brokerage charges are usually 1 per cent. No special documents are required in connection with clearing shipments, except invoices that indicate origin of goods, value, weights of packages, and marks. Customs duties are given under the heading of "Finance and banking" in preceding pages of this report.

SHIPPING CONNECTIONS.

Massaua and Assab have regular and direct steamship connections with Indian, Egyptian, East African, and Italian ports; and with Aden, Jiddah, and Jibuti in the Red Sea commercial district. These

regular services are all maintained by Italian steamers, and in addition there is an irregular service by British and other steamers, which are offered sufficient cargo inducements to call at Massaua. Sailing dhows also pass frequently during the seasons when the wind is favorable between Massaua, Assab, and smaller ports and places in the Red Sea district.

The Societa Marittima Italiana is the Italian mail line to Eritrea, India, and Italian East Africa. Every three weeks there is a steamer each way between Genoa and Mombasa via Naples, Catania, Port Said, Suez, Massaua, Assab, Jibuti, Aden, Mogadiscio, and Kismayu. Stops are sometimes made at smaller places on the coast of Italian Somaliland and Italian East Africa. Every three weeks there is also a steamer by this line each way between Genoa and Bombay, calling at intermediate ports. With one or two exceptions, all of the steamers of this line carry passengers and mail as well as cargo.

The Societa Marittima Eritrea (a subsidiary of the above company) operates a 10-day service between Massaua, Jiddah, and Suez, calling sometimes at Port Sudan. These steamers are small and are used only in the coasting trade. They carry passengers, mails, and cargo.

The Societa Veneziana di Navigazioni has at present about one cargo steamer per month from Genoa to India via Massaua, Aden, and other intermediate ports.

The Lloyd Triestino is inaugurating a service from Trieste via Massaua and Aden to Bombay and the Far East. This company is using the steamers of the former Austrian Lloyd and covers practically the same shipping routes. There are at present two steamers per month each way, one to and from India and one to and from the Far East. Passengers and cargo are carried.

Freight rates are complicated by the exchange situation, the rates being quoted in lire, with a substantial percentage, which varies, added for loss by exchange. At the present time the rate from Massaua to Genoa, or vice versa, is about \$20 per cubic meter (35.3 cubic feet). It is expected that this rate will work out to a lower amount in United States currency when the exchange situation becomes more nearly normal. Passenger rates and extra charges on all these lines, and particularly on the Marittima Italiana, are understood to be higher than on shipping lines of other nationality running from Europe to Eastern ports.

Cargo from the United States destined for Massaua may be transhipped at Genoa or other Italian ports, or may be routed via Bombay or Aden, according to shipping opportunities offered at New York. There is occasionally a direct steamer or sailing vessel from New York to Massaua and other Red Sea ports. Shipping facilities are reasonably favorable for the development of American-Eritrean trade.

EFFECT OF WAR ON ERITREAN COMMERCE.

The war has had an important and in general a favorable effect upon Eritrean commerce.

The growth of the meat-packing industry, which promises to be the most important in the colony, is due largely to conditions grow-

ing out of the war, which made it possible and profitable for the Italian Government to encourage development of this source of supply for canned meats to feed its army.

The potash deposits of the *Societa Mineraria Coloniale Italiana* gained a direct and important prosperity from the world need for potash after the cutting off of German supplies. Considerable quantities of potash from the Eritrean industry were shipped to Italy, France, and England for use in making munitions of war. Very good prices were realized and the profits of the company were such as to place it upon a sound basis.

The stopping of supplies of the Austrian Maria Theresa trade dollar, minted at Trieste, which has been an important asset to Austrian trade throughout the Red Sea district, has offered the opportunity for the substitution of the Italian trade dollar discussed in detail in foregoing pages of this report, which should be a decidedly favorable factor in strengthening Italian political and economic prestige in the Red Sea commercial district.

War prices for hides and skins, the principal export of the colony, have given noticeable prosperity to both the European firms engaged in the export business and to the native producers and traders who bring hides and skins to the market.

Trade with the neighboring Arabian Red Sea coast was interfered with by the blockade restrictions, which made it difficult for Arab traders to maintain trade connections with Massaua.

Owing also to blockade restrictions, the working of the pearl-shell beds was largely suspended and the important mother-of-pearl trade of Massaua was thus interfered with. However, the pearl banks have received a needed rest and should now yield greater and better supplies than before the war.

The threat of German-inspired hostilities from the Abyssinians and an invasion by them of Eritrean territory caused the extension and more rapid completion or improvement of roads south to the Abyssinian frontier, which were for the quicker moving of military forces in case of invasion, but which will now be of very great value to the developing of Eritrean trade with northern Abyssinia.

The war has resulted in the acquisition by the Italians of the shipping business and ships of the Austrian Lloyd, which operated from Trieste, and under Italian management the fine steamers of the Indian and Eastern lines of the old Austrian company are making Massaua a regular port of call, thus giving that port better shipping facilities than it has ever had or might have expected in the immediate future. Incidentally these facilities have further advertised Eritrea and its commercial possibilities, which were not generally appreciated even in the mother country.

Japanese cotton piece goods have obtained a footing in the Eritrean market mainly because war conditions prevented the supplying of the market from Italy and Austria. There has been a considerable increase in the prices of cotton piece goods, hardware, kerosene, and other staple articles of import, but it is believed that the enhanced value of Eritrean exports has more than offset the increased cost of imported manufactured goods, at least so far as concerns the native population of the colony, which is 99 per cent of the total.

Considering the foregoing and other lesser effects of the war, it is thought that Eritrean commercial development has benefited substantially from the war. Comparatively, Massaua enjoyed better shipping facilities during the later years of the war than did either Jibuti or Aden, as the Italian shipping companies running through the Red Sea suffered less damage and disorganization in proportion than did the British and French lines serving Aden and Jibuti.

SUPERIOR INLAND TRANSPORT FACILITIES.

The development of roads and caravan routes throughout Eritrea is superior to that in any other political division in the Red Sea commercial district, and the advantages thus offered to trade development are obvious. These interior trade routes are also safe and trade is free from molestation by unfriendly or grasping natives.

IMPORTANT INFLUENCE ON ABYSSINIAN TRADE.

The American or other foreign manufacturer or exporter interested in the potentially rich Abyssinian market should consider the advantages offered by well-organized and established Eritrean trade routes tapping northern Abyssinia, which is one of the most promising trade districts of that African Kingdom. Eritrea is the natural outlet for this district, and the colonial Government, realizing that fact, is offering inducements to trade by extending roads to the frontier which connect directly with the port of Massaua via Asmara.

The opportunity for carrying these trade roads into Abyssinia also has the attention of the Abyssinian Government, and their extension deep into that country is but a matter of time. The only other practical way of opening up northern Abyssinia is from the Sudan, and the present disadvantages in that direction are much greater than they are via Eritrea. Furthermore, the Sudan Government is concentrating more or less on its trade route via the Sobat River into western and southern Abyssinia.

The northern districts of Abyssinia, falling within the Eritrean sphere of commercial influence, are well populated by an intelligent Christian people, who will be good customers for manufactured goods and who will be able to pay for what they want by reason of the great productivity of their lands and forests.

ACCESSIBILITY OF ERITREAN MARKET.

Another important matter for consideration by the foreign trader seeking new markets is the comparatively easy access to the Eritrean market. It is highly probable that many firms interested in foreign trade would not offhand be able exactly to locate Eritrea, yet it lies on the African side of the Red Sea, with an excellent port, less than a hundred miles off the great shipping route from Europe to the Far East, India, and East Africa. Some of the ships using this route can and will call at Massaua if inducements are offered, and it is possible to offer inducements.

Even to those who can tell you offhand the geographical location of Eritrea, the colony appears as a comparatively small territory on

a coast that is outwardly unproductive and in a part of the world where important economic development is not to be expected. Yet Eritrea has a promising economic development and shows more of the effects of modern civilization than do many territories much closer and not more difficult of access from world trading centers. When Eritrea is considered as the distributing center for an annually increasing commerce with some millions of people in northern Abyssinia and on the neighboring Arabian coast it will receive much more serious attention from the foreign trader.

CLOSE RELATIONS WITH EGYPT.

The port of Massaua is less than 900 miles from Suez and has regular steamship connections with Egyptian ports. An important element in the so-called Levantine population of Egypt is of Italian extraction, and these people are active in commerce. Because of their Italian origin they are interested in the development of the Italian colony of Eritrea, and their interest is well received in the colony. As the Levantine is a decidedly able trader, the advantage of racial and cultural relationship has enabled him to share importantly in Eritrean trade and his share will increase. After the Italian, the Egyptian has apparently some advantage over other foreign traders in Eritrean commercial development.

Next to the Italian and the Italo-Egyptian the American has the best opportunity to participate in Eritrean commerce, because the Italian feels that there is less trade rivalry with United States exporters than with European competitors in the Red Sea trade.

BEST METHOD OF ENTERING MARKET.

The American manufacturer or exporter can best enter the Eritrean market by establishing his own representatives in Massaua and Asmara. There are no important exporting or importing firms in the colony except those actually of Italian nationality or claiming it, and American trade interests in the hands of such firms would naturally not be given as much attention as desired. American firms would, however, be well received in Eritrea, because it is realized by the commercial community there, particularly that part interested in export, that the trade of the colony needs the stimulus of international competition. The Eritrean market can, of course, be studied and worked to a certain extent from Aden, where there would be greater inducements for the establishing of American firms, because much greater territory can be covered from that center of Red Sea commerce. To have the best chances of success an American firm entering the Eritrean market should be prepared to handle both export and import trade. This would give the firm an opportunity for double profit, one on each branch of its trade.

The American firm should be prepared to enter actively into the trade of northern Abyssinia, which requires pioneer work, and to trade with the neighboring Arabian Red Sea coast. Jubuti at present commands the largest direct share of Abyssinian foreign trade, which is that developed in the eastern and south-central parts of the country, but command of the foreign trade of the richer north-

ern Abyssinian districts, yet undeveloped, lies with Massaua. A railroad 500 miles long from Massaua into northern Abyssinia, say in the direction of the Gondar and Lake Tsana district, would be of very much greater importance commercially than the already constructed Franco-Ethiopian railroad 500 miles long from Jibuti to Adis Abeba, which runs for almost half of its length through desert or semidesert and nonproductive country. A Massaua-Gondar railroad will run through commercially productive country almost its entire length, and as such will have most promising traffic possibilities.

PACKING OF GOODS FOR ERITREAN MARKET.

Ships arriving at Massaua land their cargoes either directly on the quay alongside the railroad, or into lighters by which they are conveyed a short distance to the customs quay. From Massaua they go inland by railroad to Asmara, and from the latter place they go either in wheeled vehicles or on the backs of animals to interior trading centers. Packages weighing 20, 50, or 100 kilos (a kilo is 2.2046 pounds) are much preferred, as the average mule can carry four 20-kilo packages, and a good camel two 100-kilo packages. Even-weight packages, and an equal number for each side of the mule or camel packsaddle, are a great convenience in the loading and moving of goods over inland trails by caravan. Boxes or bales oblong in shape are more easily handled in caravan transportation.

Goods that are placed in large packages for ocean shipment should be packed so that they may easily be divided into units of the weights above indicated without exposing the contents to soiling or other damage in making the division.

Boxes should be made strong, but not too heavy, because the extra weight is costly to transport by caravan. When the character of the merchandise permits, well-protected bales are preferred, as bales are much more easily handled and carried. Heavy jute cloth is the best wrapping for bales, and it should be held on with strap iron. Boxes should also be protected with strap iron. If possible, the contents of boxes or bales should be protected with some reasonably damp-proof oil-paper or cloth wrapping.

For inside packing, tin containers, depending, of course, upon the commodity, are desirable both for the protection given and for the use to which the native places such containers when empty. Pictures illustrating the nature and use of the contents of small packages of goods are preferred to printed descriptions or announcements which the native consumer can not read. He can understand pictures and they please him.

Goods landed at Massaua are at times exposed to great heat and dryness. During the summer months on the plateau there is heavy rainfall with lighter rains in the spring and fall. Goods should therefore be protected from the water and packed so that days of exposure to hot sun will do the least damage.

American goods arriving in the Red Sea district are generally satisfactory in packing. The only complaints against defective packing on file in the Aden consulate refer to some bottled catsups and similar foodstuffs that had not stood the journey well and in some cases

showed a loss by breakage of 75 per cent. American cotton piece goods generally make the long journey to the Red Sea in very good condition.

MARKING AND WEIGHTS AND MEASURES.

Packages should be well and plainly marked with the address and with the weight and origin of the goods. Numbers are very useful for the identification of packages by the native stevedores, customs employees, caravan followers, etc., who usually are unable to read. The metric system is used exclusively in Eritrea and all weights and measures should be so expressed. English measures of pounds, inches, etc., mean very little to Eritrean traders. They use also the Abyssinian farasula of $37\frac{1}{2}$ pounds and the Egyptian kantar of 99 pounds.

CUSTOMS REQUIREMENTS AND DUTIES.

Customs requirements at Massaua are simple. The only absolutely necessary document for the customs is the invoice giving the value, description, and origin of the goods imported.

The Eritrean customs service is well organized along Italian lines, and importers and exporters are given all possible facilities. There are customs brokers regularly engaged in the business at Massaua who may be employed to clear shipments through the customs. All duties, both import and export, are ad valorem. The import duty on kerosene and gasoline is 15 per cent, on cotton piece goods and automobiles it is 10 per cent, and on all other goods (excepting 6 per cent on certain grains), the duty is 8 per cent. These duties apply only to goods of foreign origin. Italian goods pay only 1 per cent duty. All exports, whether to Italy or other countries, pay an export duty of 1 per cent. Products entering by land from Abyssinia are free from Eritrean duty, as are goods exported by land into Abyssinia from Eritrea. The 1 per cent duty on exports is designated a statistical tax, and it is also levied on all imports, in addition to the regular duty, except on kerosene, raw cotton, cereals, and hides and skins.

Customs statistics are published for calendar years, but are usually two years late, owing to the lack of an adequate clerical force and the lack of rapid printing facilities. Both quantities and values are given in the published customs statistics.

PRICES QUOTED IN LIRE.

As Italian currency is used in Eritrea, price quotations in lire are preferred. Both sterling and rupee quotations are understood, but there has been little practice in figuring dollar quotations, and it is not desirable to quote dollar prices. Quotations f. o. b. American port of shipment would not be accepted, but as quotations for delivery in Massaua are usually not practicable, they may be made c. i. f. an Italian port, Bombay, or Aden, from which places the Eritrean importer can calculate without difficulty the further cost of delivery.

COMMERCIAL CREDITS AND ADVERTISING.

Credit practice in Eritrea varies with local conditions, but in the case of well-established firms it is not attended with much risk. The leading firms in the colony are substantial and in a position to discount bills. The European practice of long credits may, however, be said to prevail, although as might be expected in a country just developing foreign trade there is no definitely established practice. Many of the leading firms, which are engaged in both the import and export business, make shipments of Eritrean produce (hides and skins, etc.) against their purchases abroad. This is particularly the practice since exchange rates have been so unstable. Credits can always be arranged through the Banca d'Italia or the Banca Italiana di Sconto, both of which are represented in Eritrea and have correspondents in New York.

No newspapers are published in the colony and advertising is undeveloped. Certain Italian newspapers and journals, and one or two Egyptian newspapers that are published in Italian or French, circulate among the European population. Signs or placards carrying out the main idea of pictorial advertising should be sent for the use of merchants. This is at present the only established method of advertising in Eritrea.

DISTRIBUTION OF GOODS.

Methods of distribution of imported goods and the collection of produce for export are closely related in Eritrea, as is generally the case throughout this Red Sea district. The large importing and exporting firms at Massaua and Asmara have their own agents or independent representatives in the outlying trade centers, to whom goods are consigned from the distributing depots in Asmara. These agents or representatives in turn sell to the natives who come to the settlements on market days with products to exchange for cotton piece goods, hardware, and other imported manufactures that their simple methods of living may require.

When money is scarce there is actual barter, but the practice of barter is gradually disappearing. The currency of the country is supplemented by trade dollars as a medium of exchange. The ultimate consumer, who is the native living some distance from the trading centers, seldom gets credit, but pays cash when he buys, and this simplifies business to a considerable extent. It also encourages the native to bring in his products promptly, and the fact that he must have something to sell each time he comes to market in order to pay for what he buys probably encourages greater production than would result under an easier system.

The large importer established only in Massaua or Asmara usually does business on a cash basis with the independent retailer in the outlying trade centers, although there is no special reason why credit could not be granted in the majority of cases. The distributor to the ultimate consumer, unless he be the direct representative of the importing house, patronizes the importer who will buy the native products which he brings in from the outlying trade centers. Distributors of imported goods in Eritrea are usually collectors of local produce for export, and the two are so closely related that a firm

establishing itself in the market should be prepared to buy as well as to sell. Such practice not only enlarges the scope of the firm's distributing business but incidentally permits a double profit on one turnover of its capital.

CONCLUSION.

Excepting the preferential tariff, Eritrea offers at least as favorable facilities for entrepôt trade development as does any other political division in the Red Sea commercial district. The territory and population of the colony itself are comparatively small; but the districts of northern Abyssinia and the ports of the neighboring Arabian Red Sea coast under its trade influence have a population of approximately 5,000,000 people, who are coming to depend more and more upon Eritrean trade facilities for the marketing of their products and for the supplying of the manufactured goods required from foreign centers of production.

Eritrea is the only practical commercial outlet or inlet for districts of northern Abyssinia, which are among the richest in the whole of that country. Some of the more productive districts of the Arabian Red Sea coast are closer to Massaua than to any other port and trading center with foreign shipping connections, and they can be much more conveniently reached from Massaua than from Aden or Jibuti, with which two ports Massaua will compete strongly for Red Sea commerce. Massaua was a gathering place for Arab traders for centuries before its development into a modern commercial port by Italian enterprise.

Eritrea is the center of such limited development of manufacturing industry as there is in the entire Red Sea district, and may well be considered the center from which influences tending to manufacturing development will reach to other parts of the district.

Eritrea is also the center of the development of interior transportation facilities, having more made roads suitable for wheeled traffic than all the remainder of the district.

Eritrea is entirely under the control of a European nation which administers laws, regulations, etc., according to modern ideas, and is developing trading facilities along lines such as will insure to the colony and to the trading firms located there a substantial share in the commercial prosperity of the Red Sea district, particularly of Abyssinia.

Massaua offers superior shipping facilities in the way of a well-protected harbor; a quay alongside which ships may go and use modern equipment for handling cargo; low port dues, and a good supply of cheap water. Only in the matter of coal supplies does it come second to any other Red Sea port, and that feature is one in which it may without great difficulty come to equal its rival ports for Red Sea trade.

The near approach of the temperate highlands to the coast affords to merchants and other European residents of the port of Massaua a close and easily accessible refuge from the oppressive heat of the coastal plains. No other Red Sea or Gulf of Aden port affords that important advantage.

This same closeness of the productive interior highlands eliminates the long haul across unproductive desert territory for products to be exported or imported, which at other ports in the commercial district

is a distinct disadvantage to trade development of the interior districts back from the desert or semidesert coastal plains.

The Eritrean market supplies hides, skins, mother-of-pearl shells, beeswax, and other raw products in demand for American industries; and among its leading imports are cotton piece goods, general hardware, and kerosene, three American products which are known and established throughout the Red Sea commercial district. In the matter of import and export commodities the Eritrean market has, therefore, the advantage for American commerce that it may be grouped with the several political divisions which make up the commercial district dominated from Aden, where American commerce is exceeded in importance by that of only one other trading country.

The establishing of trade connections in Eritrea will yield annually increasing returns, because trade there is in its infancy and competition has not yet become highly developed. Very few parts of the world offer this attractive feature to American commerce, as European and other trade interests will be found already established and in strong competition in practically all worth-while markets, some of which do not offer the trade potentialities of the Red Sea commercial district.

American piece goods, hardware, and kerosene have been sold for some years in the Eritrean market, and there have recently been introduced such minor lines as canned fruits, soap, playing cards, garters, macaroni, etc. During the month of December, 1919, almost an entire steamer load of railroad iron, fencing wire, pumping machinery, and general hardware, arrived at Massaua direct from New York. The completion of the railroad from Asmara to Keren, a distance of about 65 miles, has been held up pending the arrival of steel rails from the United States, and the equipment of other railroads planned may very well be American if United States firms become interested in the market. The American goods at present in the Eritrean market practically all owe their introduction to foreign firms.

With the close commercial connections existing between the United States and Italy, the extension of American commercial interests to the colony of Eritrea would not be difficult and would have the advantage of shipping and banking connections already established with the mother country. Or if it were desired to enter the market via Bombay or Aden it may be said that American traders are also familiar with these routes and have established connections. It is only the market that is new, and not the methods or means of approaching and entering it. As may be said of all other new commercial territories, there are in Eritrea some special features to be considered, not the least of which would be the pioneering nature of the initial steps in trade ventures, but any special consideration or treatment required would seem to be justified by the opportunity to enter a practically undeveloped commercial field where circumstances are favorable to the founding of a permanently substantial business.

[Lists of importers who distribute to the Eritrean market have been prepared for Massaua and Asmara and may be had upon application to the Bureau of Foreign and Domestic Commerce or its district and cooperative offices. Refer to file NE-13000.]

